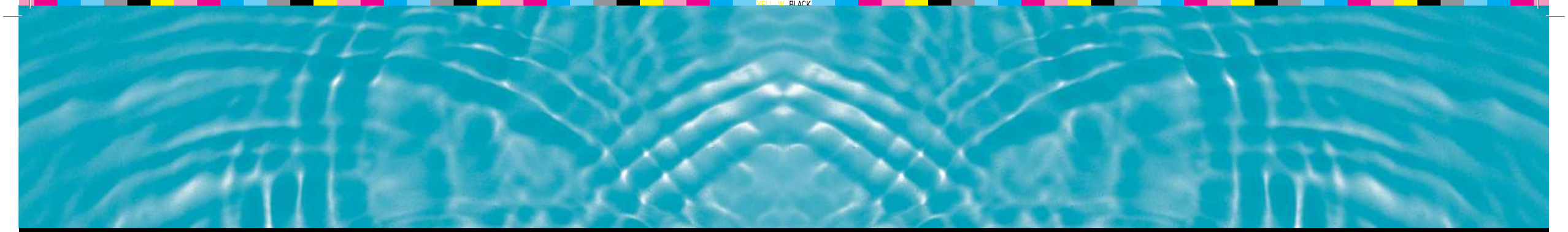

For more information contact the **Parks Victoria Information Centre** on **13 1963,** or visit **www.parkweb.vic.gov.au**

Yaringa Marine National Park
French Island Marine National Park
Churchill Island Marine National Park

Management Plan December 2007

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VICTORIA

This Management Plan for Yaringa Marine National Park, French Island Marine National Park and Churchill Island Marine National Park is approved for implementation. Its purpose is to direct all aspects of management of the parks until the plan is reviewed.

A Draft Management Plan for the area was published in August 2006. Twelve submissions were received. All submissions have been considered in preparing this approved Management Plan.

Information

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Copies

This plan may be downloaded from the Parks Victoria website (www.parkweb.vic.gov.au). Copies of the plan may be purchased for $8.80 including GST from:

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YARINGA MARINE NATIONAL PARK

FRENCH ISLAND MARINE NATIONAL PARK

CHURCHILL ISLAND MARINE NATIONAL PARK

MANAGEMENT PLAN

Parks VICTORIA

December 2007

Published in December 2007 by Parks Victoria

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Acknowledgements

Acknowledgement of *Country*. In their rich culture, Indigenous Australians are intrinsically connected to the continent – including the area now known as Victoria. Parks Victoria recognises that the parks are part of *Country* of the Traditional Owners.

Parks Victoria is grateful to all those organisations and individuals who have contributed to this Management Plan. Special thanks go to members of the Western Port Marine National Parks Management Plan Advisory Group, Richard Appleman, Stefan Borzecki, Denis Cox, Jill Fitzroy-Kelly, Hamish Hughes, Rosalind Jessop, Amy McDonald, Ron Mantel, Anwyn Martin, Michelle Neesham, Bessie Tyers and Jeff Weir.

Note

Technical terms used in this plan are explained in the Glossary at the end of the plan.

Disclaimers

This plan is prepared without prejudice to any negotiated or litigated outcome of any native title determination applications covering land or waters within the plan's area. It is acknowledged that any future outcomes of native title determination applications may necessitate amendment of this plan; and the implementation of this plan may require further notifications under the procedures in Division 3 of Part 2 of the *Native Title Act 1993* (Cwlth).

The plan is also prepared without prejudice to any future negotiated outcomes between the Government/s and Victorian Indigenous communities. It is acknowledged that such negotiated outcomes may necessitate amendment of this plan.

Every effort has been made to ensure that the information in this plan is accurate. Parks Victoria does not guarantee that the publication is without flaw of any kind and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in the publication.

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FOREWORD

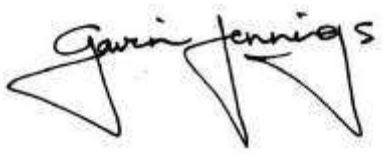
Yaringa Marine National Park, French Island Marine National Park and Churchill Island Marine National Park protect intertidal mudflats fringed by one of the most extensive areas of salt marsh and mangrove communities in Victoria. The parks provide habitat for a diverse range of fish and invertebrates including the highly unusual and very rare 'living fossil' lampshell brachiopod.

The three Marine National Parks form part of the Western Port Ramsar Site; recognised as a wetland of international significance and one of the three most important areas for migratory waders in Victoria.

Thousands of migratory wader birds and local seabirds draw visitors to observe nature by sightseeing and bird-watching activities. The tranquil and remote nature of the parks provides limited but sustainable opportunities for visitor enjoyment and appreciation of the parks.

The care of Yaringa, French Island and Churchill Island Marine National Parks is not a task for the government alone, nor only for those who live on the coast. It is a task for the whole Victorian community. This Management Plan sets out the ways in which we can work together to learn about, protect and sustain an important part of our marine environment.

I thank the Western Port Marine National Parks Management Plan Advisory Group for their valuable contribution to the plan, and also wish to thank those individuals and organisations who made submissions on the Draft Management Plan and I look forward to the community's ongoing support for the management of Yaringa, French Island and Churchill Island Marine National Parks.



GAVIN JENNINGS MLC
Minister for Environment and Climate Change

APPROVED MANAGEMENT PLAN

This Management Plan has been prepared under section 17D of the *National Parks Act 1975* (Vic.) and is approved for implementation.

The plan provides the basis for the future management of Yaringa Marine National Park, French Island Marine National Park and Churchill Island Marine National Park. It was finalised following consideration of the 12 submissions received on the Draft Management Plan.

PETER HARRIS
Secretary to the
Department of Sustainability and Environment

MARK STONE
Chief Executive
Parks Victoria

INTRODUCTION TO THE MARINE ENVIRONMENT

Victorians are custodians of some of the most remarkable, diverse, and culturally important marine environments on Earth. These include deep open water, shallow embayments, rocky reefs, canyons, seagrass meadows, tidal sandflats and mudflats, and estuaries, and they support more than 12 000 known species. Around 90% of these marine species are found only in the waters of southern Australia.

Broadly speaking, Victoria has responsibility for the waters that extend offshore to 3 nautical miles and cover around 70 000 square kilometres. Marine National Parks and Marine Sanctuaries make up about 5% of this area, but protect a range of significant species and important habitats, as well as evidence of past Indigenous occupation and use.

The vast three-dimensional marine environment has characteristics that are very different from those of the land and atmosphere. The fundamental physical properties – pressure, temperature, salinity, density and availability of nutrients and gases – are all very different. There are also great differences in the types of substrates, and the physical and biological processes that occur, such as tides, currents, light penetration, erosion, sedimentation, oxygen uptake, life cycles and even the food chains.

The organisms that occupy the marine environment are different as well. On land vascular plants dominate, but in marine habitats they are much less common. In most marine environments their ecological roles in photosynthesis and oxygen production are undertaken by algae, which range in size from giant kelps to minute single-celled species. Other single-celled organisms such as diatoms, cyanobacteria, dinoflagellates and forams, together with invertebrate larvae and marine fungi, make up most of the abundant marine plankton that is the basis of all marine food chains.

As on land, invertebrates, including molluscs (e.g. octopus, abalone, snails), crustaceans (e.g. crabs, lobsters, tiny amphipods) and echinoderms (e.g. sea cucumbers, sea stars and sea urchins), dominate the marine fauna, but insects – the most abundant invertebrates on land – are almost absent. The dominant vertebrates are fish, although mammals and reptiles also inhabit the marine environment and many birds inhabit both realms.

Although they are very different physically and biologically, the land, atmosphere and marine environments are interconnected. Water and gases are transferred between oceans and the atmosphere. There are animals with both marine and freshwater life stages, and some species breed in estuaries where fresh water from the land mixes with oceanic salt water. Fresh water and sediments from catchments far inland are dispersed into coastal waters, bringing with them nutrients needed to maintain inshore marine ecosystems but also pollution from human activities.

The sea interconnects marine habitats over great distances. Tides and currents move sediments, plankton and organic matter into and through habitats, along with flotsam, jetsam, ballast water and oils from catchments or inshore waters, released from ships on the open seas or washed from the shores of other countries. Many marine animals migrate long distances, passing freely into and out of Victorian waters and spending much of their lives in the open ocean.

A vision for Victoria's system of Marine National Parks and Marine Sanctuaries

'A world-class system of Marine National Parks and Marine Sanctuaries that conserves the diversity of Victoria's marine environments, protected and enjoyed by Victorians and visitors, forever.'

This vision is detailed in the *Marine National Parks and Marine Sanctuaries Management Strategy 2003–2010* (Parks Victoria 2003b). It is described in the following extract:

'The vision for Victoria's system of Marine National Parks and Marine Sanctuaries is to maintain marine ecosystems in their natural state, enjoyed by visitors and protected from the effects of inappropriate activities. The system will safeguard representative examples of undisturbed natural marine habitats, respect cultural heritage values, and be a place of inspiration, enjoyment and renewal for all people. The system will complement our world-class national parks system on land.

This vision aims to preserve the diversity of our marine environment, its flora and fauna, its natural beauty, and the diversity of activities that may be enjoyed there. It is a vision that invites all Victorians to become involved, to take pride in our Marine National Parks and Marine Sanctuaries, and to share in their stewardship.'

Contribution to the statewide system

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park each make an important contribution to the statewide system:

- Yaringa Marine National Park protects intertidal mudflats and extensive mangrove and saltmarsh areas in one of the least accessible parts of Western Port
- French Island Marine National Park protects seagrass beds as well as intertidal mudflats, soft sediment beds divided by deep channels, and fringing mangroves and saltmarsh
- Churchill Island Marine National Park protects a variety of sheltered habitats including saltmarsh, intertidal mudflats, seagrass beds, and deep channels.

Implications for management

The differences and connections in the marine environment mean that Victoria's Marine National Parks and Marine Sanctuaries must be managed somewhat differently from land environments. Natural, recreational and cultural values may be affected by the use of both land and marine areas some distance away, over which park managers have no direct control. Impacts on one marine habitat can quickly affect another, and human activities and natural events on land and in the atmosphere can have widespread consequences for the marine environment. Boundaries in the ocean can be difficult to define, and the effects of human activities can be hidden from view.

Like the atmosphere, but in contrast to land, the marine environment is a common resource which is rarely in private ownership, and there are few natural or artificial barriers to movement. Many of the strategies used to concentrate the impacts of recreational activities in terrestrial parks (e.g. the creation of walking tracks and picnic areas) are not feasible in the marine context.

Conserving historic and cultural places and objects is also a challenge because it is difficult to identify an underwater place or monitor activities that take place on the open sea or under water. Sea *Country* and cultural association to, or past use of, underwater places that were exposed before the sea level rose must also be considered.

The long-term protection of the Marine National Parks and Marine Sanctuaries relies on the support and goodwill of the community, together with the help of coastal managers and government agencies. The plan seeks to foster a strong sense of custodianship of Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park and to strengthen their protection while respecting cultural and community associations with the areas.

SUMMARY

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park protect important habitats of intertidal mudflats, extensive seagrass, mangrove and saltmarsh areas and soft sediment beds dissected by deep channels. The mangroves and seagrass are a vital part of the ecosystem of Western Port and provide an important habitat for a number of invertebrates including crustaceans, molluscs, and adult and juvenile fish.

The parks form part of the Western Port Ramsar Site, which is recognised as a wetland of international significance. The expansive intertidal mudflats and seagrass beds provide a foraging habitat for migratory waders and the surrounding saltmarsh and mangroves provide roosting areas. These areas are recognised as areas of State and regional significance.

The parks also provide opportunities for visitors to enjoy and appreciate cultural and natural values by sightseeing and bird-watching activities.

The parks are part of the *Country* of Boonwurrung[1].

Future management aims to protect the parks' values while providing for limited but sustainable opportunities for visitor enjoyment and appreciation of the parks.

Major management directions for the parks include the following:

- Maintaining significant habitats for sea birds and shore birds including intertidal mangroves, saltmarsh, seagrass and mudflats through restricted access.
- Protecting natural processes such as competition, predation, recruitment and disturbance to ensure an overall benefit to biodiversity and variety of marine ecological communities.
- Scientific research and monitoring will be undertaken to improve the scientific basis for management of the parks as outlined in the Statewide Management Strategy (Parks Victoria 2003b).
- Addressing issues of water quality entering the parks through promoting park values with stormwater and waterway managers and promoting integrated coastal management.
- Minimising threats to the parks through ongoing risk assessment and complementary adjacent, coastal and catchment management.
- Reflecting the Traditional Owners' knowledge and interests in the area and aspirations for the parks in planning and management.
- Respecting Indigenous knowledge relating to *Countr*y and the views of the Traditional Owners.
- Interpreting and promoting the parks' values and its recreational and tourism opportunities.
- Fostering community appreciation and awareness of the parks' values.
- Supporting and encouraging Friends and volunteer groups and promoting opportunities for the community to work together and with Parks Victoria to achieve common goals for the parks.
- Working collaboratively with agencies, the community and other stakeholders to assist in the parks' management.

[1] This management plan adopts the spellings used by the Native Title Unit, Department of Justice. Boonwurrung is a known form of the name for this Aboriginal tribal group. Boonwurrung may also be spelt in a number of different ways, including 'Boonwurrung' and 'Bunurong'.

CONTENTS

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FIGURES

1 INTRODUCTION

1.1 Location and planning area

The parks comprise of Yaringa Marine National Park, French Island Marine National Park and Churchill Island Marine National Park. These parks are located within Western Port, 50 km south-east of Melbourne (figure 1).

Yaringa Marine National Park (980 ha) is located in Watsons Inlet between the mainland south-west of Cannons Creek and Quail Island, about 9 km south-west of Tooradin and 50 km south-east of Melbourne. The park extends from the high water mark along 20 km of the Watsons Inlet coastline (figure 2a). Two lead markers on the shore north of the Yaringa Marina channel and the southern tip of Quail Island identify the park boundary.

French Island Marine National Park (2800 ha) is located about 10 km south of Tooradin and 60 km south-east of Melbourne. The park extends offshore from the high water mark 15 km along the northern shore of French Island National Park (figure 2b). The park boundary runs east from Barrallier Island and follows the southern bank of Bagge Harbour to The Cut, then to Horseshoe Channel and south to Palmer Point. The park is marked by in-water navigation markers and onshore markers at the eastern and western extent of the park.

Churchill Island Marine National Park (670 ha) is located south of Rhyll on the eastern shore of Phillip Island near the township of Newhaven, 85 km south-east of Melbourne. The park extends from the high water mark along 11 km of the Swan Bay coastline (figure 2c). The park boundary is marked by onshore markers located at Long Point on Phillip Island and North Point on Churchill Island. An additional in-water navigation marker is located halfway along a line in the channel leading to Swan Corner.

The parks include all waters and the seabed within these boundaries, and extend 200 m beneath the seabed.

In the text, the expression ‘the parks’ refers to all three marine national parks.

1.2 Creation of the parks

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park form part of the system of 13 Marine National Parks and 11 Marine Sanctuaries in Victorian waters. The selection of these areas was based on more than 10 years of research, investigation and community consultation by the former Land Conservation Council (LCC) and Environment Conservation Council (ECC), summarised in the Marine, Coastal and Estuarine Investigation Final Report (ECC 2000). The recommendations of the ECC accepted by government (Government of Victoria 2002) included reservation of the new parks under the *National Parks Act 1975* (Vic.). Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park were included on Schedule 7 of the National Parks Act on 16 November 2002 (appendix 1).

When created, much stronger penalties were applied for all forms of fishing, including shellfish collection in Marine National Parks or Marine Sanctuaries, than apply for taking or damaging other fauna, plants or objects from these areas.

Yaringa Marine National Park includes areas between the high and low water mark that were formerly part of the North Western Port Nature Conservation Reserve.

French Island Marine National Park includes areas extending between mean high water mark and 150 m offshore that were formerly part of French Island National Park.

Churchill Island Marine National Park includes areas between the high and low water mark that were formerly part of Churchill Island Heritage Farm.

1.3 Plan development

This first Management Plan for the parks was prepared by Parks Victoria, with significant input from the Western Port Marine National Parks Management Plan Advisory Group and other stakeholders. It takes into account existing information, reports and research findings that relate to the parks and is informed

and supported by a range of best practice management systems.

The strategies outlined in this plan have been guided by the statewide *Marine National Parks and Marine Sanctuaries Management Strategy 2003–2010* (Parks Victoria 2003b).

The plan is a strategic guide for future management of the parks. As a public document, the plan establishes how Parks Victoria will protect the natural and cultural values of the parks, and describes the services and facilities that will be provided to help visitors to enjoy, appreciate and understand the parks in ways that are consistent with this. The plan also serves to inform and encourage cooperative land management and participation in community-based programs between Parks Victoria and the managers of areas adjacent to the parks.

As a working document for the parks, the plan informs Parks Victoria's development of Corporate Plans, serves as a framework for subsequent detailed planning and governs management activities.

The Draft Management Plan was released for public comment in 2006, and 12 submissions were received (appendix 2).

Where necessary, further consultation with the community and stakeholders was undertaken.

Key changes made to the Draft Management Plan in preparing this Final Management Plan included:

- providing a safe operating environment for vessels, protecting other users and the important mudflats and seagrass beds from damage by seeking the introduction of a 5 knot speed limit in French Island Marine National Park consistent with the 5 knot speed limit Yaringa and Churchill Island marine National Parks proposed in the Draft Management Plan
- increasing hovercraft access except to the exposed intertidal areas
- updating the plan to take account of the Aboriginal Heritage Act 2006.

The Final Management Plan will direct future management of the Yaringa Marine National Park, French Island Marine National Park and Churchill Island Marine National Park, until reviewed.

2 BASIS

2.1 Regional context

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park form part of a representative system of 13 Marine National Parks and 11 Marine Sanctuaries in Victoria, established within the broader context of a National Representative System of Marine Protected Areas (NRSMPA). The establishment of an NRSMPA contributes to the establishment of a global representative system of marine protected areas (ANZECC TFMPA 1998).

The parks are three of eight Marine National Parks and Marine Sanctuaries in the Victorian Embayments marine bioregion, as identified by the Interim Marine and Coastal Regionalisation for Australia (IMCRA). This regionalisation identified 60 marine bioregions, five of which apply to Victorian waters (IMCRA Technical Group 1998). Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park protect approximately 0.33%, 0.93% and 0.23% of the Victorian Embayments marine bioregion respectively.

The bioregion encompasses the larger bays and inlets of Port Phillip, Western Port, Corner Inlet–Nooramunga, Gippsland Lakes and Mallacoota Inlet. The bioregion is characterised by sheltered waters with extensive areas of subtidal and intertidal soft sediments (Parks Victoria 2003b).

The parks are also within the Mornington Peninsula and Western Port Biosphere Reserve, a combined urban/rural UNESCO biosphere reserve that encompasses the Mornington Peninsula Shire, Phillip Island and French Island and the waters of Western Port (sections 7.2 and 8.2).

Indigenous tradition indicates that the parks are part of *Country* of Boonwurrung (section 5.1).

The parks are strongly influenced by activities within the Western Port Catchment of the Port Phillip and Western Port Catchment Region, which is within the Port Phillip and Westernport Catchment Management Authority's areas of responsibility, and streams and rivers within the catchment managed by Melbourne Water. The Western Port Catchment (343 000 ha) is predominantly used for agricultural purposes, including dairying, grazing and horticulture. The coastline and forested hills of the upper catchment support valuable natural areas of forests and remnant vegetation. The catchment has been highly modified and contains many regional townships. It is a significant area for tourism and recreation, and a major future site for urban growth. The 12 major rivers and creeks in the catchment drain extensive dryland agriculture, grazing and horticulture areas as well as some industrialised and urbanised areas.

Western Port is characterised by a wide variety of marine habitats ranging from deep channels to very extensive seagrass beds, mangroves, saltmarsh and tidal mudflats. Western Port is heavily influenced by tidal activities that expose and submerge large expanses of mudflats.

The 20 km of the coastline abutting Yaringa Marine National Park is typified by saltmarsh communities, coastal heaths and open woodlands. The areas above high water mark are protected within Western Port Nature Conservation Reserve, and are within the City of Casey or the Shire of Mornington Peninsula and managed by Parks Victoria.

The 14.5 km of the coastline abutting French Island Marine National Park is typified by mangrove and saltmarsh communities, coastal heaths and open woodlands. The areas above high water mark are protected within French Island National Park managed by Parks Victoria. French Island is an 'unincorporated locality' (section 7.2).

The 11 km of coastline abutting Churchill Island Marine National Park is typified by fringing mangrove and saltmarsh communities. Crown land areas above high water mark are protected within Churchill Island Heritage Farm and Phillip Island Nature Park which are managed by Phillip Island Nature Parks. Freehold areas abutting the Phillip Island Nature Park are mostly used for stock grazing. All areas above high water mark are within the Shire of Bass Coast.

There is a range of other natural attractions in the region, including Mornington Peninsula National Park, French Island National Park, Mushroom Reef Marine Sanctuary, North Western Port Nature Conservation Reserve, Phillip Island Nature Park and Churchill Island Heritage Farm.

The parks are within Tourism Victoria's Phillip Island and Gippsland Discovery product region. Camping and accommodation areas close to the Marine National Parks include Cannons Creek, Warneet, Blind Bight and Tooradin (Yaringa Marine National Park); Fairhaven Campground within French Island National Park (French Island Marine National Park); and Newhaven, San Remo and Rhyll (Churchill Island Marine National Park).

In 2003-2004 the Phillip Island and Gippsland Discovery product region received 3.4% of all tourist visits to Victoria (Tourism Victoria 2004), comprising 1.8 million domestic overnight visitors, 973 000 domestic day visitors, and 42 000 international overnight visitors (Tourism Victoria 2004). Many visitors come to the region to visit the Phillip Island Nature Parks, which attract 626 000 visitors per year (PINP 2005). French Island National Park receives about 6000 visitors per year.

2.2 Park significance and values

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park make a valuable contribution to Victoria's parks and reserves system, which aims to protect viable representative samples of the State's natural marine and terrestrial environments. Parks also provide opportunities for visitors to enjoy and appreciate natural and cultural values, and many make important contributions to tourism.

The parks are assigned the International Union for the Conservation of Nature and Natural Resources (IUCN) Category II (National Park) of the United Nations' List of National Parks and Protected Areas. Category II areas are managed primarily for ecosystem protection and recreation.

Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park are recognised internationally as part of Mornington Peninsula and Western Port Biosphere Reserve. The parks form part of the Western Port Ramsar Site, which is recognised as a wetland of international significance under Article 2 of the Ramsar Convention (Ramsar, Iran, 1971). The Convention on Wetlands of International Importance (the Ramsar Convention) is an intergovernmental treaty that provides for international cooperation in the wise use and conservation of wetlands. The parks also form part of the East Asian-Australasian Shorebird Site Network for migratory waders using the East Asian-Australasian Flyway (BOCA 2003).

Western Port is significant for its history of early European exploration of the southern coast of Victoria and subsequent colonisation. In recognition of the area's outstanding values and its heritage importance, Western Port has been listed on the Register of the National Estate. The National Trust of Australia (Victoria) has classified the unique natural features and landscape of French Island and the ecologically significant mudflats, mangroves and saltmarsh of Churchill Island and Swan Bay as locally significant on the National Trust Register.

The area included in the parks is significant to many people in the community, especially the Traditional Owners. A number of local Friends groups, community groups, individuals, residents of the Western Port area and the education and research community, have strong associations with the parks. Parks Victoria respects the community's traditional and historical associations with the parks.

Important values for the parks are listed below.

Natural values

- floristically rich seagrass communities of national and State significance that support a diverse range of invertebrates and provide important fish habitat and nursery areas
- extensive areas of mangrove and saltmarsh communities that provide habitat for migratory wader and shorebird species, that are important feeding areas for fish and invertebrates at times of high tide and that are Ramsar listed and of State significance

- extensive intertidal mudflats that support a diverse range of invertebrate and fish species, provide foraging area for migratory wader birds and that are Ramsar listed and of national and State significance
- dense populations of the highly unusual and very rare 'living fossil' lampshell or brachiopod, *Magellania flavescens* at Churchill Island Marine National Park
- a dendritic network of deep tidal channels that provide a deepwater habitat for a diverse range of fish and invertebrate species including a high abundance of the seapen, *Sarcoptilus grandis*
- relict multiple curved sand spit of regional significance at Bungower Point within Yaringa Marine National Park
- sand ridges that display relict geomorphological processes at Palmer Point and Barrallier Island, a small gravelly island of regional and local significance within French Island National Park
- geomorphological features indicative of higher sea levels, active and reflective cliffs at Swan Corner and raised beach and emerged coastal forms between Chambers Point and Long Point within Churchill Island Marine National Park.

Cultural values

- a place of significance to Indigenous people
- nearby historical tracks and cattle grazing on Quail Island in Yaringa Marine National Park
- remnant jetty from historic chicory and salt works adjacent to the park at French Island Marine National Park
- historical values of Churchill Island including a homestead, site of the first grain crop in Victoria and cattle bridge adjacent to Churchill Island Marine National Park
- Western Port was an early site of exploration in Victoria from 1798.

Recreational and tourism values

- excellent locations for bird watching and natural history activities
- opportunities for scenic recreation, marine education and ecotourism
- recreational boating, including sailing and sea kayaking
- scenic seascapes and landscapes that provide opportunities for spectacular photography, filming and painting activities.

2.3 Evidence of past use

Western Port and the surrounding region were rich in food sources for Indigenous people. The Boonwurrung have used the Western Port area to hunt and gather food for around 40 000 years. At the end of the last glacial phase, about 6 000 years ago, the sea level rose to flood Bass Strait and the sunk land of Western Port. The Boonwurrung then inhabited the islands, coast and inland areas around the flooded areas of Western Port.

The clans of the Boonwurrung were hunters and gatherers who travelled and set up campsites according to seasonal changes in the availability of food. The sheltered nature of Western Port would have provided protection from extreme coastal weather conditions and the intertidal mudflats and seagrass areas would have provided a diverse range and abundance of fish and invertebrates. Middens indicate that the coastal area of Western Port was significant to Indigenous communities. The Boonwurrung visited the islands in Western Port using canoes constructed from bark to collect bird eggs, and hunted small mammals to complement their diet.

Western Port was a site of early European exploration, sealing activities and settlement in Victoria, although the harsh conditions hampered the settlements. In the early 1900s interest in Western Port began to steadily increase as guest houses on Phillip Island became fashionable holiday destinations and visitors came to see the seal and penguin colonies.

Development within the catchment and the draining of the Koo Wee Rup swamp have altered Western Port and shaped its physical parameters. Western Port has become a

significant port because of its easily navigable entrance and deep channels. Many privately owned boats and ferries may have passed through the waters of the parks to ferry passengers, goods and livestock.

Recreational boating including sailing and kayaking have been and remain very popular recreational activities in the parks. Recreational fishing and commercial fisheries including Australian salmon, squid, yellow-eye mullet, gummy sharks, snapper, garfish, King George whiting and rock flathead are very popular in Western Port and occurred in the waters that now make up the parks.

The parks have been popular for bird watching and bird populations have been surveyed by volunteers from bird conservation organisations for over 30 years (BOCA 2003).

2.4 The park visitor

The remoteness of the region, intertidal mudflats and mangroves and saltmarsh communities, which attract thousands of migratory wader birds, draw visitors to observe nature and watch birds. Visitors also enjoy passive boating activities such as kayaking and sailing. Nature observation and recreational activities can also be undertaken with a licensed tour operator, increasing accessibility in an area that is otherwise difficult to access.

The tranquil nature of the parks also attracts local and international visitors during the summer months for beachside holidays, when the populations of local townships increase substantially. Camp grounds and holiday houses are popular for visitors in coastal towns. Western Port is accessible from Melbourne, the Mornington Peninsula and the Gippsland region.

The intertidal areas of Churchill Island Marine National Park can be accessed by shore. Both French Island and Yaringa Marine National Parks can only be accessed by boat. There are no visitor services other than ranger patrols, and facilities consist only of boundary markers (section 7.2) and signage (section 6.1).

2.5 Legislation and ECC recommendations

Legislation

Yaringa, French Island and Churchill Island Marine National Parks are reserved and managed under the provisions of the National Parks Act. The Act requires the Secretary to DSE to preserve and protect the natural condition of the parks and their natural, cultural, and other features and, subject to this, to provide for the use of the parks by the public for enjoyment, recreation, and education. Appropriate research activities are also provided for under the Act. The National Parks (Park) Regulations 2003 apply to Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park.

All forms of extraction, including recreational and commercial fishing, and shellfish collection, are prohibited within the parks under the National Parks Act and regulations. A Statewide Compliance Strategy and a Regional Compliance Plan have been developed in partnership with Fisheries Victoria, Department of Primary Industries, to manage compliance with the no-fishing provisions within the park (section 8.3).

The objects and provisions of the National Parks Act set the framework for the management of Yaringa Marine National Park, French Island Marine National Park, and Churchill Island Marine National Park (appendix 1). Specific legislation and ECC recommendations accepted by government also govern particular aspects of the management of the three parks as described below and in subsequent sections of the plan.

The *Aboriginal Heritage Act 2006* (Vic.) applies to the parks and protects all Aboriginal places, objects and Aboriginal human remains (section 5.1).

The *Coastal Management Act 1995* (Vic.) applies to the use and any development of the whole of the parks.

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) applies to the whole of the parks with respect to actions that have, will have, or are likely to have a significant impact on matters of national environmental significance, including national

heritage places, Ramsar wetlands of international significance, migratory species and threatened species and ecological communities in the parks.

The *Native Title Act 1993* (Cwlth) applies to the management of the parks.

The *Parks Victoria Act 1998* (Vic.) enables Parks Victoria to provide, on behalf of the Secretary to DSE, management services for the parks.

Other legislation, and policies and guidelines, at both the Commonwealth and State levels, apply to management of the parks and specific activities and uses (section 2.6).

ECC recommendations

The former Environment Conservation Council (ECC) in its *Marine, Coastal and Estuarine Investigation Final Report* (ECC 2000), recommended the creation of:

- Yaringa Marine National Park to protect intertidal mudflats and extensive mangrove and saltmarsh areas in one of the least disturbed and least accessible parts of the bay.
- French Island Marine National Park to protect seagrass beds as well as intertidal mudflats, areas of deeper channel, mangroves, and saltmarsh.
- Churchill Island Marine National Park to protect a variety of sheltered habitats, including intertidal mudflats, seagrass beds, and deep channels.

The ECC also made a number of recommendations that relate to the parks. The recommendations included:

Recommendation A Use of Yaringa Marine National Park (A5), French Island Marine National Park (A6) and Churchill Island Marine National Park (A7) in accordance with the general recommendations for Marine National Parks.

R3 Planning and management relating to traditional interests and uses in coastal marine areas to be based on recognition and respect for the traditional relationship of Aboriginal people with the land and sea.

R13 Further research to be undertaken on biological community composition and structure, both within and external to marine protected areas, with an emphasis on assessing the impacts of harvesting marine fauna.

R14 Assessments to be made and strategies developed for protection of vulnerable or threatened marine species and communities, using the provisions of the *Flora and Fauna Guarantee Act 1988* (Vic.) (FFG) as appropriate.

R18 Measures to be implemented by responsible agencies to reduce the risk of marine pest species arriving in Victoria, and to ensure a rapid and effective response in the event of an introduction.

R26 Public land and waters continue to be available for a wide range of tourism and recreational uses. Development should not preclude public access to foreshore and offshore areas, other than to meet safety and security requirements that cannot be achieved in other ways.

R34 Priority will be given to establishing monitoring programs for Marine National Parks to determine the extent to which these areas are meeting their objectives.

R39 The State Government will investigate the establishment of a Biosphere Reserve incorporating French Island, Phillip Island and the surrounding waters of Western Port, including portions of the catchment if appropriate.

All of these recommendations were accepted by the State Government in 2002 (Government of Victoria 2002).

2.6 Policies and guidelines

The parks are managed in accordance with Parks Victoria's operational policies and, as appropriate, with other relevant policies and guidelines, including:

- *Victoria's System of Marine National Parks and Marine Sanctuaries Management Strategy 2003–2010* (Parks Victoria 2003b)
- *Indigenous Partnership Strategy and Action Plan* (Parks Victoria 2005a)

- *Guidelines for Working with Aboriginal Communities and Protection of Cultural Sites* (Parks Victoria 2002)
- *Victoria's Biodiversity Strategy* (NRE 1997b)
- *National Strategy for the Conservation of Australia's Biological Diversity* (ANZECC 2001)
- *Heritage Management Strategy* (Parks Victoria 2003c)
- *National Strategy for Ecologically Sustainable Development* (COAG 1992)
- *Western Port Ramsar Site Strategic Management Plan* (DSE 2003).

The parks are also managed within the broader context of a number of other plans and strategies including:

- *Port Phillip and Western Port Regional Catchment Strategy 2004–2009* (PPWPCMA 2004)
- *Western Port Bay Strategy* (WRPCC 1992)
- *Western Port Perspective* (PPK 2000)
- *State Environment Protection Policy (Waters of Victoria)*
- *Victorian Coastal Strategy* (VCC 2002)
- *Victoria's Nature Based Tourism Strategy — Draft Plan 2007–2011, (Tourism Victoria 2007)*
- *Policy for Sustainable Recreation and Tourism on Victoria's Public Land* (NRE 2002).

3 STRATEGIC DIRECTIONS

3.1 Parks vision

A future visitor to Yaringa, French Island and Churchill Island Marine National Parks finds a wide range of marine ecosystems in a dynamic tidal environment. The expansive intertidal mudflats, deep channels, dense mangroves and vast seagrass meadows of the parks provide important habitat for an extraordinary diversity of organisms, including juvenile fish, and roosting and feeding grounds for migratory and resident shorebirds. The complex interactions and biological processes that underpin and sustain the marine communities are healthy.

The community understands and values the area's extraordinary natural diversity and its cultural history, including the Boonwurrung people's association with *Country*. It appreciates the tranquil and remote ambience of the parks. The community participates in recreational activities, and is actively involved with Parks Victoria in protecting the parks and communicating their values, in a manner that reflects their shared understanding of their importance and the need to balance visitor use with the imperative to conserve the natural and cultural values.

The parks are protected from visitor use and the pressures of increasing urban and maritime development by management that is integrated with that of the adjacent land, water and wider catchment, providing a model for other area managers. The parks are recognised internationally as part of Mornington Peninsula and Western Port Biosphere Reserve, and as vital components of the Western Port Ramsar site.

3.2 Zoning

A park management zoning scheme is normally used to define areas where various types and levels of use are appropriate. However, management zones do not need to be defined in Marine National Parks and Marine Sanctuaries because the management aims for these areas are clearly outlined in the National Parks Act and are consistent across all Marine National Parks and Marine Sanctuaries (section 2.5 and appendix 1).

For each of Yaringa, French Island and Churchill Island Marine National Parks, a Special Protection Area – Natural Values overlay is designated for intertidal areas with additional management requirements.

These requirements are summarised in table 1, and their boundaries are shown in figures 2a, 2b and 2c.

3.3 Management directions

The Traditional Owners' knowledge and interests in the area and aspirations for Country will be reflected in planning and management, in accordance with legislation and policies (Parks Victoria 2005a).

Other major management directions for the parks are outlined below.

Natural values conservation

- Intertidal feeding and roosting habitat for migratory wader and shore birds will be preserved and protected.
- Floristically rich seagrass areas will be maintained subject to natural ecological processes.
- Mangrove and saltmarsh communities will be protected by restricting access to the vegetated intertidal areas.
- Natural processes, including competition, predation, recruitment and disturbance, will be protected to ensure an overall benefit to biodiversity and variety of marine ecological communities.
- Compliance with legislated 'no take' provisions that prohibit all extractive activities, including fishing and shellfish collection, will be ensured through education, information, community support, and ongoing surveillance and enforcement.
- Research and monitoring to improve the scientific basis for management, including baseline data collection, marine habitat mapping and threat assessment, will be undertaken as outlined in the Statewide Management Strategy (Parks Victoria 2003b) and through collaborative research links.

- Negative impacts from changes to water quality will be minimised through cooperation with relevant land managers, including the City of Casey, Mornington Peninsula Shire, Bass Coast Shire Council, Cardinia Shire Council, Melbourne Water, and the Environment Protection Authority Victoria (EPA).
- Identified threats to the parks will be minimised through addressing the outcomes of ongoing monitoring, risk assessment and, where feasible, complementary adjacent, coastal and catchment management.

Cultural values conservation

- Aboriginal places and objects will be protected from interference or damaging activities.
- Indigenous cultural obligations relating to *Country* will be respected, and the Traditional Owners' knowledge will be promoted and interpreted in accordance with their views.
- Research into the Indigenous and historic cultural heritage of the parks will be encouraged and supported as appropriate, in consultation with the Indigenous and wider communities.
- Historic relics and places will be conserved by protecting them from damaging or inappropriate activities.

The park visit

- Sustainable boat-based activities and use by school and community groups for education about the parks and marine values will be promoted.
- Visitor enjoyment will be enhanced by appropriate management of recreational activities. Recreational opportunities will be available in accordance with table 2.
- Visitor understanding and appreciation of the parks' natural and cultural values will be enhanced by Parks Victoria's information, interpretation and education programs.
- Visitors will be encouraged to avoid sensitive habitats, adopt minimal impact recreation and to adhere to industry-developed standards appropriate to their activity.
- Visitor compliance with legislated provisions will be ensured though education, information, ranger patrols and community support.
- Visitors will have opportunities to observe marine life, enjoy water sports and participate in other recreational activities compatible with management objectives (appendix 1).

Community awareness and involvement

- Strong collaborative partnerships will be developed with the relevant Registered Aboriginal Party to facilitate the reflection of Indigenous knowledge, and interests and aspirations in the parks' planning and management.
- Friends, volunteers, Indigenous and other community groups will be encouraged and supported to participate in areas of parks management that relate to their interests.
- An awareness and understanding of the parks and its management, and a sense of custodianship, will be encouraged among neighbours, local communities and visitors.
- Strong relationships will be further developed and maintained with people, groups and communities with strong connections with or interests in the parks, to encourage their participation in the parks' management.
- Collaborative partnerships will be established with relevant agencies and local schools to progress areas of mutual interest that strengthen protection of the parks.

TABLE 1 MANAGEMENT OVERLAYS

OVERLAYS	AREA/LOCATION	VALUES	GENERAL MANAGEMENT AIM	ACCESS
YARINGA MARINE NATIONAL PARK				
Special Protection Area – Natural Values (Saltmarsh and Mangroves)	645 ha, 66% of the park. The vegetated intertidal area, extending seaward from high water mark (figure 2a)	Sensitive mangrove and saltmarsh, areas of value for roosting and feeding for seabirds and shorebirds	Protect sensitive communities and habitats for seabirds and shorebirds	No public access including all vessels and the landing and launching of vessels
FRENCH ISLAND MARINE NATIONAL PARK				
Special Protection Area – Natural Values (Saltmarsh and Mangroves)	450 ha, 16% of the park. All of the intertidal shoreline extending 300 m seaward from high water mark of French Island (figure 2b)	Sensitive mangrove, saltmarsh, mudflats and seagrass areas of value for roosting and feeding for seabirds and shorebirds	Protect sensitive communities and habitats for seabirds and shorebirds	No public access including all vessels and the landing and launching of vessels
Special Protection Area - Natural Values (Seabird/Shorebird Habitat)	7 ha, 0.25% of the park. All of the intertidal shoreline extending 150 m seaward of the high water mark of Barrallier Island (figure 2b)	Sensitive areas of value for roosting and feeding for seabirds and shorebirds	Protect sensitive habitat for seabirds and shorebirds	No public access including all vessels and the landing and launching of vessels
CHURCHILL ISLAND MARINE NATIONAL PARK				
Special Protection Area – Natural Values (Saltmarsh and Mangroves)	20 ha, 3% of the park. The vegetated intertidal area, extending seaward from high water mark (figure 2c)	Sensitive mangrove and saltmarsh, areas of value for roosting and feeding for seabirds and shorebirds	Protect sensitive communities and habitats for seabirds and shorebirds	No public access including all vessels and the landing and launching of vessels

TABLE 2 SUMMARY OF RECREATIONAL OPPORTUNITIES

ACTIVITY	YARINGA MARINE NATIONAL PARK		FRENCH ISLAND MARINE NATIONAL PARK		CHURCHILL ISLAND MARINE NATIONAL PARK	
	PARK	SPECIAL PROTECTION AREA - OVERLAY	PARK	SPECIAL PROTECTION AREAS - OVERLAY	PARK	SPECIAL PROTECTION AREA - OVERLAY
(PERCENTAGE OF PARK)		(66%)		(~16%)		(3%)
Aircraft landing/launching (including sea planes, hang-gliding, paragliding)	N	N	N	N	N	N
Beachcombing (no collecting)	N	N	N	N	Y	N
Bait collection	N	N	N	N	N	N
Bird watching	Y	N	Y	N	Y	N
Boating (section 6.3)						
Hovercraft	Y	N	Y	N	Y	N
Kite-boarding / wind-surfing	N/A	N	N/A	N	N/A	N
Motorised boating	Y	N	Y	N	Y	N
Non-motorised boating (canoe, kayak, surf-ski)	Y	N	Y	N	Y	N
Personal watercraft (PWC)	Y	N	Y	N	Y	N
Sailing	Y	N	Y	N	Y	N
Boat operation (sections 6.2 & 6.3)						
Anchoring	Y	N	Y	N	Y	N
Landing	N/A	N	N/A	N	Y	N
Launching vessels (no facilities)	N/A	N	N/A	N	Y	N
Mooring (private)	N	N	N	N	N	N
Vessels engaged in towing (para sailing / water skiing)	N/A	N	N/A	N	N/A	N
Camping	N	N	N	N	N	N
Collection of animals, seaweed, shells and driftwood	N	N	N	N	N	N
Cycling	N	N	N	N	N	N
Diving and snorkelling (sections 6.4)	Y	N	Y	N	Y	N
Dog walking (section 6.6)	N	N	N	N	N	N
Driving on beaches	N/A	N	N/A	N	N	N
Educational/guided activities (sections 6.1 & 6.7)	Y	N	Y	N	Y	N
Feeding wildlife	N	N	N	N	N	N
Filming & photography	Y	N	Y	N	Y	N
Fires on beaches	N/A	N	N/A	N	N	N
Fishing (all forms)	N	N	N	N	N	N
Fossil / artefact collection	N	N	N	N	N	N

Table 2 (cont'd)

ACTIVITY	YARINGA MARINE NATIONAL PARK		FRENCH ISLAND MARINE NATIONAL PARK		CHURCHILL ISLAND MARINE NATIONAL PARK	
	PARK	SPECIAL PROTECTION AREA - OVERLAY	PARK	SPECIAL PROTECTION AREAS - OVERLAY	PARK	SPECIAL PROTECTION AREA - OVERLAY
(PERCENTAGE OF PARK)		(66%)		(~16%)		(3%)
Horse riding (section 6.6)	N	N	N	N	N	N
Licensed tours (section 6.7)	Y	N	Y	N	Y	N
Nature photography, painting	Y	N	Y	N	Y	N
Picnicking (excludes on a vessel)	N/A	N	N/A	N	Y	N
Prospecting and metal detecting	N	N	N	N	N	N
Rock climbing / abseiling	N/A	N	N/A	N	N	N
Rockpool rambling	N/A	N	N/A	N	Y	N
Scenic viewing	Y	N	Y	N	Y	N
Shell collecting	N	N	N	N	N	N
Surfing / boogie boarding	N/A	N	N/A	N	N/A	N
Swimming (section 6.5)	Y	N	Y	N	Y	N
Walking (intertidal area – soft)	N/A	N	N/A	N	Y	N
Walking (intertidal area – rocky)	N/A	N	N/A	N	Y	N
Whale / dolphin / seal watching (section 4.4)	Y	N	Y	N	Y	N
Wreck diving	N/A	N	N/A	N	N/A	N

Note: The use of chainsaws and generators is prohibited within the parks.

Key:

Y Permitted, subject to overlay prescriptions and conditions prescribed by legislation, permits or elsewhere in the plan, as indicated.

N Not permitted.

N/A Not applicable.

4 STRATEGIES FOR NATURAL VALUES CONSERVATION

4.1 Geological and geomorphological features

The landforms of the parks are intrinsic elements of *Country* for the Traditional Owners and are significant for Indigenous communities.

Western Port lies on part of a tectonic depression: the Western Port sunk land extends from Koo Wee Rup between the Mornington Peninsula and the South Gippsland highlands. The Western Port region is covered by a basalt plateau laid down during the Eocene; the many rivers that cross the region have cut broad valleys through the plateau, which was forced down by tectonic movement. The sunk land has raised formations in the centre that form French Island, Phillip Island, and Churchill Island. The coastline and geological features of Western Port were modified by coastal processes including erosion, deposition, wave action, and marine submergence, which left Miocene and Pleistocene marine deposits during high sea level phases.

Mud accumulated during the Pleistocene and Holocene consists of shelly deposits, organic matter and silt and clay derived from in-washed river sediment reworked by waves and tidal currents and fine gravel material derived from the clayed mantle of older volcanics and outcrops around and beneath the bay.

During the late Pleistocene low sea levels exposed Western Port as a lowland; the Bass River incised its channel across this lowland to flow out of the eastern entrance of Western Port at San Remo and the small streams from the Koo Wee Rup swamp flowed along the valleys of the lowlands across to the western entrance to Western Port. The Koo Wee Rup swamplands extended as far as French Island leaving freshwater peat and black clay deposits on the northern shore of French Island.

Apart from a few cliffs Western Port consists mainly of spits and saltmarshes with a seaward fringe of mangroves, fronted by extensive mudflats with patchy seagrass cover and some sandy and rocky beaches. At low tide the water subsides and exposes extensive mudflats with creeks that drain into a deeper network of dendritic channels. The floor of the bay has a tide dominated morphology, shaped by the ebb and flow of the tides. When the sea level rose, waves swept sand in from the sea floor.

In the northern parts of the bay, saltmarsh and mangroves have stabilised foreshore areas. As muddy sediment accreted, the saltmarsh and mangrove have built a terrace upward and outward in front of an early Holocene coastline that developed 6000 years ago. The coastline lies along the inner edge of the saltmarshes along the shores of Quail Island and Chinaman Island and the Northern shores of French Island.

The mangroves within Yaringa Marine National Park act as a land-building agent and sedimentation has proceeded more rapidly in the mangrove fringe than on the saltmarshes behind the mangroves while the level of the mudflats oscillated. Similar mangrove-fringed saltmarshes are extending around Quail Island and Chinaman Island, where they enclose low undulating areas of quartzose dune sand.

Bungower Point, adjacent to Yaringa Marine National Park, is a relict multiple recurved sand spit that lies inland of the broad saltmarsh and mangrove area on the western side of Watsons Inlet and is of State significance (Rosengren 1984). The spit was formed before the development of the mangrove and saltmarsh fringe and the onset of muddy sedimentation and indicates hydrological and sea level changes in Western Port.

French Island, adjacent to French Island Marine National Park, consists of a broad ridge of Cretaceous rock bordered and overlain by Tertiary sands and clays with a fringe of older volcanics and extensive areas of Pleistocene quartzose dunes. Mudflats surround outcrops of weathered basalt and spreads of ferruginous gravel and sand piled up by wave action into ridges, bordered by scrub-covered sand and mangroves. The northern coast of French Island is vegetated by saltmarsh and mangrove up to 1 km wide. Large depressions in the saltmarsh have created the Duck Splash, a tidal lagoon fed by inflowing creeks.

Barrallier Island, on the northern coast of French Island and within French Island Marine National Park, is a small depositional island built of gravels derived from ferruginous

sandstone and is of regional importance as one of the small gravelly islands in Western Port. Configuration of these islands changes in response to weather influences (Rosengren 1984).

Churchill Island, adjacent to Churchill Island Marine National Park, is an embayed hilly island of weathered Older Volcanics basalt and tuff. The shallow strait between Churchill Island and Newhaven is basalt overlain by mudflats. The shorelines of Churchill Island illustrate many of the characteristics of the northern coast of Phillip Island. They are indicative of a higher sea level and are of regional significance (Rosengren 1984).

The bay to the south of Churchill Island, and Swan Bay around to Long Point in Churchill Island Marine National Park, are lined with mangrove fringed saltmarsh and mangroves backed by low bluffs to successive partly cliffed promontories of weathered basalt and tuff at Chambers Point, Pleasant Point and Long Point. The active and relict cliffs of Swan Corner within Swan Bay are of regional significance for their unusual sequence of bluffs and cliffs, and the coastline between Chambers Point and Long Point is of State significance for features that suggest a higher Holocene sea level (Rosengren 1984).

Aim

- Protect features of geological and geomorphological significance from the impacts of human activity.

Management strategies

- *Minimise visitor and management impacts on sites of geological and geomorphological significance.*
- *Protect geological and landform features by prohibiting the construction of sea walls and groynes within the parks.*
- *Work with DSE and adjacent land managers to minimise impacts on the parks of any future coastal modification or beach renourishment in adjacent areas (section 7.2).*
- *Encourage research into geological and landform features within the parks.*
- *Encourage research to identify geomorphological features of special significance to the Traditional Owners and protect them from damaging or inappropriate activities (sections 5.1 and 8.2).*
- *Consider and respect the significance of landforms to the Traditional Owners in interpreting the parks and implementing management actions (sections 4.5, 5.1, 6.1 and 8.2).*

4.2 Catchment and water quality

The parks lie within the Western Port Catchment of the Port Phillip and Western Port Catchment Region, under the jurisdiction of the Port Phillip and Westernport Catchment Management Authority (section 8.3). The catchment has an area of 343 000 ha and a population of 225 000 people. Dairying, grazing, and horticulture are the main agricultural purposes and use 42% of the catchment. The catchment is a significant area for tourism and recreation. Indigenous vegetation covers 22% of the catchment, and the coastline and forested hills of the upper catchment support natural vegetation areas.

Increased urban growth in the catchment surrounding Western Port is planned for the near future. The Victorian Government's Melbourne 2030 (DSE 2005) strategy designates five growth areas into which future development on Melbourne's outer edges will be channelled. The South Eastern Growth Corridor – an area that will in the future accommodate up to one-third of Melbourne's population and is destined to face huge growth over the next 20 years – will extend out to Pakenham and Cranbourne. Management of the impacts of increasing urban growth and potential impacts on natural values of Western Port is critical for the long-term health of the parks.

The Western Port catchment contains seven water supply catchments that together supply 73 900 ML of water annually for domestic, industrial, and agricultural use. The catchment has historically received over the past 150 years an average of approximately 750 mm in yearly rainfall along the coast and 1200 mm in the northern highlands. Groundwater is also an important resource in the catchment with 18 830 ML licensed annually for domestic and agricultural use. Western Port receives

drainage water from the Mornington Peninsula and from the Western Port Catchment.

Lowlands in the Western Port hinterland were once largely covered by the Koo Wee Rup swamp. With settlement, the swamp was drained for agricultural use and, as a result, many of the waterways in the lower catchment are mostly made up of channelised drains. Waterways within the catchment flow through areas of urban development and agriculture including dairying, grazing, and horticulture.

The main waterways draining into Western Port are East Creek, Stony Creek, Manton Creek, Warrangine Creek, Watsons Creek, Langwarrin Creek, Bunyip Main Drain, Bunyip River, Lang Lang River, Cardinia Creek, Yallock Creek, and the Bass River. There are no waterways discharging directly into French Island Marine National Park or Churchill Island Marine National Park. Watsons Creek discharges directly into the northern end of Yaringa Marine National Park.

Catchment influences

The parks are influenced by activities within the catchment. These activities have the potential to cause detrimental impacts on the natural values and water quality of the parks. The increase in agriculture, industrialisation and urbanisation has increased activities and their impacts within the catchment. Potentially threatening activities and processes within the catchment include waterway discharge, stormwater run-off, seepage from unsewered townships, agricultural run-off (nutrients and herbicides), oil and chemical spills, contamination of groundwater, poor land management practices, increasing urban development and associated recreational pressures and land clearance. These potentially threatening processes can be short term or long term and deliver pollutants including sediments and nutrients, micro-organisms, toxic organics, heavy metals, hydrocarbons, oils and surfactants as well as litter and debris.

Many pollutants enter the parks via waterway discharge. The clockwise flow of water and slow flushing time in the northern and eastern parts of Western Port (section 4.3) may magnify the impacts of any oil spills (section 7.2) and pollutants lowering the water quality in the parks. Discharge from Watsons Creek, managed by Melbourne Water, flows into Yaringa Marine National Park north of Bungower Rd in Watsons Inlet.

Watsons Creek has a catchment area of 6900 ha and runs through predominantly semi-rural agricultural and urban areas with some commercial land use before it discharges into Yaringa Marine National Park. A number of tributaries flow into Watsons Creek. The water quality of Watsons Creek is poor with high nutrient levels (Melbourne Water 2004). The Watsons Creek Waterway Management Activity Plan (Melbourne Water 2003) identifies the key issues for the waterway and provides a framework for complementary management and coordination between management authorities.

Key issues for Watsons Creek and its tributaries include the protection of threatened flora and fauna, damage to water quality in intensive agricultural regions, stormwater run-off, the continued extension of the sewerage system, lack of habitat and loss of vegetation along the edge of the waterways.

The impacts of European settlement including land clearing, draining of the Koo Wee Rup swamp and construction of channels across the swamp have led to an increase in catchment erosion and in the efficiency of sediment delivery into Western Port, forever changing the nature and delivery of sediment to Western Port. The channels deliver an increased sediment and nutrient load from increasing urban development and agricultural run-off, particularly during high rainfall events, leading to higher turbidity levels in Western Port. Deposited sediments are subject to dispersal and entrainment by tides, waves and wind forces. Sediment delivered to the Northern Arm is transported clockwise around the embayment. Increased turbidity can lead to increased siltation and deposition and potentially impact on hydrodynamic processes as well as marine flora and fauna, in particular sensitive seagrass beds through increased light attenuation and smothering.

The Western Port Sediment Study (Wallbrink et al. 2003) found that persistent high turbidity in Western Port arises from daily reworking and re-suspension of fine sediment by tidal, wind and wave action. The study identified that the dominant catchment source of the fine sediment is subsoil from channel and gully erosion of the Bunyip and Lang Lang river

systems. The study also identified the need for rehabilitation and stabilisation programs to reduce catchment erosion.

Increased nutrients enter Western Port via waterway discharge, seepage from unsewered townships, stormwater run-off and agricultural run-off. High nutrient inputs provide conditions conducive to algal blooms and increased epiphyte growth, which may also smother seagrass beds and increase light attenuation. High levels of turbidity, sedimentation, and blooms of epiphytic algae are considered to be significant factors linked to the decline of seagrass. The continued decline of seagrass is a major concern for the management of the Marine National Parks in Western Port (section 4.4). A reduction in the levels of turbidity, sediments and nutrients in Western Port would contribute to the protection of the natural values of the parks.

The Western Port Research Coordination Project was initiated through stakeholder concern regarding the threat of human activities (direct or indirect) upon the ecology and function in Western Port. The project aims to create a coordinated and cooperative approach to address the impacts to, and management of, Western Port via identification of priority research needs. Stage 1 of the project was commissioned to synthesise existing science describing the Western Port marine environment to provide a holistic representation of the important processes and elements of this ecosystem.

Stormwater and litter

Urbanised areas are extensively covered by impervious surfaces, creating an unnatural amount of run-off. Stormwater systems have been developed to channel the run-off into waterways and the marine environment to minimise the risk of flooding. Stormwater has the potential to negatively impact on the water quality and subsequently the natural values of the parks through the inputs of pollutants and freshwater inputs. Stormwater can deliver pollutants, including sediments and nutrients, micro-organisms, toxic organics, heavy metals, oils and surfactants, as well as litter and debris, into the parks. Stormwater and pollutant inputs including litter into Western Port are likely to increase with the development of the South Eastern Growth Corridor.

Stormwater is discharged directly into Yaringa Marine National Park via tributaries that enter Watsons Creek and into waters adjacent to Churchill Island Marine National Park. Stormwater discharged into the waters of Western Port outside the boundaries of the parks may indirectly impact on the water quality and natural values of the parks. To manage stormwater discharge with the City of Casey (CoC 2004), Cardinia Shire Council (CSC 2001), Mornington Peninsula Shire (MPS 2002) and Bass Coast Shire Council (BCSC 2003a) have developed Stormwater Management Plans to implement the environmental objectives outlined in the State Environment Protection Policy (Waters of Victoria).

Western Port is protected by the State Environment Protection Policy 1970 (Waters of Victoria) (Schedule F8 –Waters of Western Port and Catchment 2001), which applies to all surface waters of Western Port and its catchment including the marine environment and aims to provide a coordinated approach for the protection and, where necessary, rehabilitation of the health of Victoria's water environments.

Under the *Environment Protection Act 1970* (Vic.), littering and the discharge of wastes from vessels is illegal. Litter in the parks may be derived from shopping centres, urbanised and industrial areas and transported through stormwater systems, rivers and waterways, discarded from vessels within or near the parks, or discarded by visitors to the parks and adjacent areas. Litter discarded by recreational fishers from vessels or from nearby piers may also enter the parks. More information about the sources of litter is required to develop targeted preventative programs. Litter may have to be collected from shorelines to prevent injury to people and animals, and the recirculation of litter into the marine environment. The State Environment Protection Policy (Waters of Victoria) requires operators of vessels to install effective waste-containment facilities on board the vessel to avoid the disposal of wastes or sewage from vessels (section 6.3).

The health of the parks and the adjacent local environments can be improved through the implementation of a Neighbourhood Environment Improvement Plan (NEIP).

NEIPs are action plans developed in partnership by all parts of the community and administered by EPA Victoria under the Environment Protection Act. They are designed to address environmental issues of importance to the community at a local scale and build on and support other efforts to protect Victoria's environment (section 8.3).

The proximity of the parks to the Port of Hastings and commercial shipping activities (section 7.2) and its use by recreational vessels make it vulnerable to oil or chemical spills. Responses to marine pollution incidents often require a diverse range of skills and resources involving coordination between different agencies (section 8.3). As the manager of 70% of Victoria's coastal areas, Parks Victoria plays a significant support role in the response to marine pollution incidents. The responsibilities for responding to emergency incidents in Victoria and Victorian waters are outlined in the *Emergency Management Act 1986* (Vic.). In Victorian waters the Victorian Marine Pollution Contingency Plan (VICPLAN) (MSV 2002) outlines broad response arrangements to a potential oil or chemical spill (section 8.3).

Aims

- Protect and maintain water quality within the parks to ensure that park values are protected.
- Minimise the impact of threatening processes from catchment-derived activities.

Management strategies

- *Liaise with Melbourne Water and Port Phillip and Westernport Catchment Management Authority, local government, and other relevant organisations on catchment issues that may indirectly influence the water quality of the parks and the management of nearby waterways, in particular Watsons Creek at Yaringa Marine National Park.*
- *Liaise with Melbourne Water and Port Phillip and Westernport Catchment Management Authority concerning the rehabilitation and stabilisation of the Bunyip and Lang Lang river systems to improve the water quality of the parks.*
- *Liaise with the Western Port Research Coordination project to encourage water quality testing within the parks and adjacent areas and to ensure that the parks values are given due consideration.*
- *Work with the City of Casey, Cardinia Shire Council, Mornington Peninsula Shire and Bass Coast Shire Council, Melbourne Water and EPA Victoria to minimise the impacts of stormwater and achieve water quality levels consistent with SEPP objectives.*
- *Seek alternative stormwater treatment including the removal of stormwater drains emptying into Western Port near the parks and seek the installation of gross pollutant traps on remaining stormwater drains.*
- *Seek amendment to the City of Casey, Cardinia Shire Council, Mornington Peninsula Shire, Bass Coast Shire Council and Melbourne Water's stormwater management plans to acknowledge and incorporate strategies to protect park values.*
- *Liaise with the City of Casey, Mornington Peninsula Shire, Cardinia Shire Council and Bass Coast Shire Council to minimise litter within the parks. Support the installation of lids on bins and cigarette butt bins in nearby coastal reserves.*
- *Investigate sources of litter within the parks and remove accumulated litter from accessible intertidal areas within the parks where necessary to ensure public safety and to protect park values or as part of an emergency response such as to oil or chemical spills (section 7.2).*
- *Incorporate water quality and catchment issues in interpretation and education programs and liaise with relevant agencies to communicate benefits to the parks in wider community education programs.*
- *Seek the development of a NEIP for Watsons Creek in Yaringa Marine National Park and the neighbourhood adjacent to Churchill Island Marine National Park.*
- *Respond to marine incidents within the parks in accordance with the Emergency*

Management Act and the Victorian Marine Pollution Contingency Plan (VICPLAN) (MSV 2002).

4.3 Hydrodynamics

Western Port is 680 km^2 in area; 270 km^2 are exposed as mudflats at low tide. The total volume of Western Port at high tide is 2.9 million ML (Shapiro 1975). French Island lies in the centre of Western Port and Phillip Island at its entrance. The position of these two islands affects the movement of water within Western Port. The net flow of water is in a clockwise direction around French Island, with a greater water exchange from the western entrance of Western Port than the eastern entrance due to the larger width of the western entrance.

The temperature in Western Port is constant, with very little day-to-day variation. In summer the average surface water temperature in Western Port is 21°C, and in winter 12°C.

Tidal currents, wind, and waves drive the circulation of water in Western Port and also control the distribution of sediment within Western Port. The average difference between high and low tide is between 2.5 m and 3 m. At the turn of each tide, the tidal streams take time to re-establish themselves. This results in a pattern of tidal stream velocities and changes in water level that change slowly within the first and last hours of the tidal cycle and very quickly in the middle of the tidal cycle, changing as much as 18 cm every 30 minutes. During peak tidal flows the current can be around 1 knot although the large volumes of water flowing in the large channels can be as high as 6 knots.

The open entrances of Western Port engender the exchange of water between Bass Strait and Western Port. The tidal amplitudes are microtidal and the tidal range increases progressively from the two entrances from 1.6 m at Flinders to 2.2 m at Tooradin. Tidal range in Western Port is the highest in Victoria. The tides have an unequal semidiurnal pattern; the flooding and ebbing both have a higher and lower event per day. The average tidal volume is 1.8 million ML and the flushing time varies from days in the western entrance to months in the upper eastern arm (Hinwood 1979).

Western Port also receives an average of 1100 ML of freshwater per day from the 17 waterways that flow into Western Port (Shapiro 1975). The channelling of watercourses, urbanisation, and the drainage of the Koo Wee Rup swamp for agricultural purposes have altered stream hydrology and freshwater inputs (DSE 2003). Increased run-off, extended low- or no-flow periods and waterway erosion from higher peak discharges have the potential to affect the parks. Other potentially threatening processes to the hydrodynamics of the parks include sea level rise and altered current flows.

Because human-induced changes to local hydrodynamic processes could affect the values of the parks, any proposals for new infrastructure, including artificial reefs, will generally be inappropriate in Marine National Parks or Marine Sanctuaries. Natural hydrodynamic events such as storm surges and regular sediment erosion or deposition are considered to be ongoing natural processes (section 4.1).

Aim

- Minimise impacts on the values of the parks from human-induced changes to local hydrodynamic processes.

Management strategies

- *Provide advice on planning applications for developments that could affect the hydrodynamic processes of the parks, where appropriate (section 7.2).*
- *Encourage research into natural and unnatural hydrodynamic processes to increase knowledge and understanding, and evaluate research to direct future management of the parks.*

4.4 Habitats and communities

Victoria's system of Marine National Parks and Marine Sanctuaries has been established to protect a comprehensive, adequate and representative example of marine habitats within Victorian waters. Western Port is characterised by a wide variety of marine habitats ranging from deep channels to extensive seagrass and mudflats fringed by mangrove and saltmarsh, all of which incorporate many microhabitats. The seagrass, saltmarsh and mangroves of Western Port are

the most important source of primary production, providing organic detritus that most other organisms in the ecosystem depend on.

Indigenous people recognise natural values as an intrinsic element of *Country*. The diversity and abundance of birds and marine species in the parks provided an important food source for the Traditional Owners.

Saltmarsh and mangrove communities

The mangrove and saltmarsh communities of Western Port are often found adjacent to each other in parallel stands. Saltmarsh plant communities are generally found landward of mangroves above and around the mean high water mark, preferring to be submerged occasionally. The species diversity and abundance in saltmarsh communities varies throughout the parks. Mangrove and saltmarsh communities within the parks are significant habitat for resident and migratory shorebirds, and as a nursery habitat for invertebrates and fish species. The saltmarsh and mangrove communities filter pollutants, stabilise sediments, trap and process nutrients and protect the shoreline from erosion.

The white mangrove (*Avicennia marina* subsp. *australasica*) is the only species of mangrove to occur in Victoria, where it reaches its most southern extent of distribution. Western Port has communities of white mangrove that are the most extensive and well developed in Victoria and are considered of State significance. The mangrove stands in Yaringa and French Island Marine National Parks have been expanded by prograding in a shoreward direction and have extended up into the creeks running into the parks and displaced saltmarsh vegetation. The trunks and pneumatophores of mangroves provide habitat for epiphytic filamentous algae, littorinids of the genus *Bembicium*, barnacles, and blue mussels. The mangrove fringes of the parks are also inhabited by crabs and at high tide gobies, mullet, and toadfish.

French Island Marine National Park's mangrove and saltmarsh vegetation area is one of the major mangrove and saltmarsh stands in Victoria and along with Yaringa Marine National Park is a major site to study the role of mangroves in promoting sediment accumulation (Plummer et al. 2003). The mangrove stands in French Island Marine National Park grow as trees and shrubs up to 4 m tall. There are significant communities of mangroves on North Point and Swan Corner in Churchill Marine National Park.

The saltmarsh community of Watsons Inlet and Quail Island in Yaringa Marine National Park covers 393 ha, one-third of the park and is of national importance because it is floristically rich in comparison to other areas in Australia and relatively undisturbed. The mangrove and saltmarsh vegetation zone in Yaringa Marine National Park is exceptionally wide, extending up to 1 km and is of State significance as it is the least disturbed mangrove and saltmarsh area on the mainland of Western Port (Plummer et al. 2003). The mangrove stands in Yaringa Marine National Park are extensive and cover 237 ha.

The importance of mangrove and saltmarsh communities in the parks is magnified by the loss of mangrove and saltmarsh communities in areas of Western Port outside the parks. Mangroves and saltmarsh in Western Port have been reduced from clearing for coastal developments and from impacts of decreasing water quality resulting from increased catchment-related activities. The impacts of decreasing water quality on these communities need to be monitored. The loss of these mangrove and saltmarsh communities causes an increase in erosion and turbidity.

Key threatening processes for saltmarsh and mangrove communities are trampling and disturbance by visitors and boats including anchoring and propeller scour (sections 6.2, 6.3 and 6.5), changes in sediment deposition patterns, water flow and water quality, in particular increases in nutrient levels, herbicides, and pollution (section 4.2).

Public access and landing and launching of vessels through saltmarsh and mangrove communities is likely to damage the fragile intertidal vegetation through trampling and disturb roosting and feeding bird colonies. To prevent impacts to saltmarsh and mangrove communities, a Special Protection Area overlay applies to the vegetated intertidal areas of Yaringa and Churchill Island Marine National Parks and within 300 m seaward of the high water mark of French Island in French Island Marine National Park (table 1, figures 2a, 2b and 2c) (sections 3.2, 6.2 and 6.3).

Intertidal soft-sediment and seagrass communities

Most of the intertidal mudflats within the parks are covered by seagrass beds. Seagrass beds are complex and extremely productive environments which play an important role in the ecology of the parks. Seagrass beds provide habitat for epiphytic algae, hydroids, ascidians, diatoms and sponges, and grazing invertebrates including many molluscs, crustaceans, polychaetes and crabs. Seagrass beds stabilise the sediment and remove dissolved nutrients from the water, forming one of the basic levels of the food chain. They are important nursery areas for many fish including various gobies, the smooth toadfish, pipefish, yellow eye mullet, leatherjackets, King George and Blue Rock whiting and Rock flathead.

Seagrass beds cover 276 ha or one-third of Yaringa Marine National Park, 1014 ha or one-third of French Island Marine National Park and 447 ha or two-thirds of Churchill Island Marine National Park. These extensive beds are made up of *Heterozostera nigricaulis* and are generally found with patchy areas of macro-algae. French Island Marine National Park also has sparse patches of the less common seagrass, *Halophila ovalis* to the east of Post Office channel in the centre of the park (Plummer et al. 2003).

Seagrass beds in Western Port declined by approximately 70% between 1971 and 1985 (DSE 2003). The greatest loss of seagrass occurred in intertidal areas formerly dominated by *Heterozostera nigricaulis*. There is little knowledge of seagrass cover prior to this time. Seagrass loss occurred in intertidal areas that are now part of the parks. A survey in 1995 indicated that between 20 and 30% of the degraded areas had revegetated (EPA 1995).

The unvegetated mudflats support a high biomass of micro-algae surface film and some fine-branched macro-algae along with a number of molluscs including the triangular tellin, and elongated lantern shell, and many crustaceans including crabs and ghost shrimp, the latter known to be important in structuring soft sediment communities. The mudflats are feeding areas for juvenile fish and gobies, toadfish, flounder, stingrays, flathead, and mullet.

Prior to proclamation of the parks, most visitors anchoring in the area were recreational anglers. As fishing is no longer permitted, the potential for anchoring impacts is much lower. Nevertheless, visitor use of the parks and associated impacts of anchoring on seagrass communities will need to be monitored over time (section 6.3).

Sensitive seagrass communities within the parks are easily damaged by vessels operating in shallow waters. Scouring of the seabed by boat propellers and vessel groundings are known to have occurred within Western Port. Grounded vessels and propeller scouring have the potential to fragment seagrass beds, resulting in habitat loss, decreased productivity, and the possibility for further erosion and degradation. Hovercraft operating at low tide over mudflats can also damage exposed seagrass (section 6.3).

Other key threatening processes for seagrass communities and unvegetated intertidal mudflats are changes in sediment deposition patterns, water flow and water quality, in particular increases in nutrient levels, herbicides, and pollution (section 4.2).

Subtidal soft sediment communities

Subtidal soft sediments in the deep channels are diverse and nutrient-rich habitats and characteristic of Western Port. Strong currents have sorted a coarser sand substrate in the deep channels than the finer muddy substrate of the sheltered intertidal mudflats. The grain size and physical structure of the sediment define the composition of species, and provide habitat in the spaces between the sand grains for numerous species of infaunal invertebrates such as polychaetes, crustaceans, bivalves, and gastropods. Fish associated with the subtidal sediments and in the deep channels, include stingrays, gurnard perch, sand flathead, and gobies.

Seapens *(Sarcoptilus grandis)* are abundant epifauna in the deep water channels with densities reaching 200/m^2. Other epifaunal species living in the subtidal sediments include gastropods, sea stars, urchins and ascidians. Several species of epifaunal invertebrates including the two molluscs, the brooch shell *(Neotrigonia margaritacea)*, the Mud Ark *(Anadara trapezia)* and the brachiopod lamp shell *(Magellania flavescens)* are of interest.

These species are considered 'living fossils' due to their abundance in fossil records throughout the world. Today, the distribution of these species is limited to small populations in southern Australia, however they are abundant in Western Port. Lampshells are found in densities of up to 250/m^2 in Churchill Island Marine National Park.

Key threatening processes for the subtidal soft sediments of the deep channels include mechanical disturbance, boat groundings and propeller scouring at low tide (section 6.3), pollution and changes in sediment deposition patterns, and water quality and flow (section 4.2).

Water column communities

The water column habitat of the parks is dominated by drifting planktonic species, which rely on currents for movement, nutrients, and food. Many intertidal and subtidal organisms spend the early stage of their life in the water column environment and currents assist the distribution of recruits back to intertidal and subtidal habitats. Common plankton found in the water column includes phytoplankton such as diatoms and zooplankton including copepods, jellyfish, and ctenophores. A group of highly mobile free-swimming animals including Australian salmon, yellow-eye mullet, pilchards, anchovies, barracouta and various sharks and stingrays inhabit the water column habitat of the parks.

Bottlenose Dolphins may visit the parks, and other large mammals may pass nearby. All whales and dolphins are protected under the *Wildlife Act 1975* (Vic.) and the Wildlife (Whale) Regulations 1998 (Vic.). Under this legislation the minimum approach distances for whales and dolphins are 30 m for swimmers and divers, 50 m for surfers and 100 m for recreational and commercial vessels, including personal water craft and motorised swimming aids. A speed limit of 5 knots also applies to all vessels within 300 m of a whale or dolphin. The *Victorian Cetacean Contingency Plan* (NRE 1999c) details arrangements for incident response. *A Wildlife Response Plan for Oil Spills* (NRE 1997a) guides the rescue and treatment of injured or oiled wildlife.

Migratory and local shorebirds

Western Port is an important location for local seabirds and shorebirds to roost and feed and is one of the three most important areas for migratory waders in Victoria. It is also an important drought refuge for water birds; being marine it provides habitat all year round (DSE 2003). Western Port has been recognised as a wetland of international significance under Article 2 of the Ramsar Convention (Ramsar, Iran, 1971). The significance of Western Port for migratory shorebirds has also been recognised by its designation as part of the East Asian–Australasian Shorebird Reserve Network.

Western Port supports more than 10 000 ducks and black swans and 10 000 birds of 37 species making up 12% of the total Victorian wader population. Twenty-nine bird species listed under JAMBA and 31 bird species listed under CAMBA regularly occur in the Western Port Ramsar Site. Western Port is also important as a breeding area for the Fairy Tern, Pied Oystercatcher, Pied Cormorant and Australian Pelican.

The intertidal mudflats and seagrass beds of Yaringa Marine National Park are recognised as an area of State significance as a secondary foraging area for migratory waders, and the surrounding saltmarsh and mangrove are of regional importance for shorebirds providing roosting area for waders, cormorants, herons and egrets. The Orange-bellied Parrot, listed as endangered under the EPBC Act and as threatened under the FFG Act, migrates annually to coastal Victoria between March and October and has been recorded in the saltmarsh in and around Yaringa Marine National Park. The species is threatened by loss of habitat, in particular saltmarsh feeding grounds, urban development, predation by foxes and cats, agricultural practices and recreation.

The intertidal areas of French Island Marine National Park are recognised as an area of national significance as a primary feeding area for migratory waders in the west, and of State significance as a secondary feeding area to the east. French Island Marine National Park also protects major roosting sites. In the west of the park, Barrallier Island is a major high tide roosting site and is the only site in Western Port where Little Tern are observed. In

addition a few pairs of Little Penguins nest on the island. Little Penguins may be observed feeding or swimming throughout the park. Saltmarsh on the north coast of French Island provides habitat for breeding waterfowl.

The intertidal seagrass beds and mudflats of Churchill Island Marine National Park are recognised as an area of national significance as a primary feeding area for resident and migratory shorebirds and of State significance as a secondary feeding area and an important secondary roosting area for resident and migratory shorebirds.

Human activities including boating activities (section 6.3), shore-based activities (section 6.5) and dog walking (section 6.6) can disturb breeding, roosting and feeding birds, and disturbance can result in species no longer visiting a site, a decline in species numbers, and low body weight in migratory birds and ultimately pose a threat to the survival of species. All visitors undertaking activities within the parks especially near roosting, breeding and feeding habitats can minimise their impacts by avoiding these areas particularly during the breeding and migratory season, from August until March (section 6.5).

To protect roosting and feeding bird colonies a Special Protection Area overlay applies to the vegetated intertidal areas of Yaringa and Churchill Island Marine National Parks and within 150 m seaward of the high water mark of Barrallier Island and within 300 m seaward of the high water mark of French Island in French Island Marine National Park (table 1, figures 2a, 2b and 2c) (sections 3.2, 6.2 and 6.3).

All species recorded within the parks listed as threatened or protected by international agreements (e.g. JAMBA, CAMBA) or other legislation are either birds or large marine mammals. This reflects the current vertebrate focus of threatened species management. Environmental management within the parks takes a habitat-based, rather than a species-based approach. Management within the parks of marine ecological communities, rather than threatened species, is also likely to protect and enhance threatened species populations. Whole-of-habitat management may also result in the protection of species not yet identified because of their rarity, cryptic nature, or lack of search effort.

A considerable amount of monitoring and research has been conducted in Western Port since the early 1970s. Western Port was extensively studied during the early 1970s (Shapiro 1975) and has been surveyed systematically for waterbird abundance and distribution since 1973 by volunteers from the Bird Observers Club of Australia (BOCA 2003), Australian Wader Studies Group, Phillip Island Nature Parks and the Victorian Wader Study Group (DSE 2003) (section 8.2).

Although there have been many studies in Western Port, few studies have focused on the biota within the parks, and some knowledge gaps remain. Major areas of research in the parks includes migratory birds (Dann 1991; 2000), mangroves and saltmarsh and associated flora, fauna and ecological processes (Saintilan & Rogers 2001; Satumanatpan & Keough 1999; Van der Valk & Attiwill 1984), seagrass and associated epifauna (Campbell & Miller 2002; Blake & Ball 2001; Watson et al. 1984), spawning activities (Jenkins et al. 2000), nursery areas (Stevens & West 1997) and invertebrate infauna (Boon et al. 1997).

Current research and ongoing monitoring is directed by the Statewide Strategy (Parks Victoria 2003b) and is targeted at collecting baseline biological information for the parks that will be used to build knowledge understand long-term changes in population abundances, community structure and ecological processes, identify threats and assess and implement management strategies in the life of this plan. Where appropriate, research and monitoring compares areas outside park boundaries with those inside the park. This work will assist in identifying indicator species and habitats. The results, available on Parks Victoria's website, will enable an assessment of the ecological condition of the parks to be made.

Community monitoring programs such as the Sea Search seagrass monitoring can also provide valuable information about seagrass and its associated fauna. Waterbird abundance and distribution information collated by volunteer organisations (BOCA 2003) also makes a valuable contribution to the monitoring of the parks and other management programs (section 8.2).

All forms of extraction, including shellfish removal, spearfishing, and recreational and commercial fishing, are prohibited within the parks. Aquaculture and the feeding of animals, including fish and birds, are not permitted in the parks.

Aims

- Protect marine ecological communities and indigenous flora and fauna, and allow natural processes to continue.
- Improve knowledge of marine ecological communities, flora and fauna and threatening processes to improve management, protection and appreciation.

Management strategies

- *Manage visitor activities to protect migratory and resident shorebird roosting and feeding habitat and sensitive intertidal and seagrass habitat from impacts from boating, trampling and dogs (sections 6.1, 6.3, 6.5, 6.6 and 8.3).*
- *Establish a Sea Search (community-based monitoring) program to monitor the condition of seagrass communities which helps to detect any loss of seagrass communities within the parks and adjacent areas (section 8.2).*
- *Regularly assess the impact of anchoring and propeller scour on seagrass communities within the parks, and implement actions as necessary to reduce impacts (section 6.3).*
- *Encourage research into the causes of seagrass dieback and the impacts of increased nutrients, sediments and pollution on seagrass communities.*
- *Ensure all sightings of marine flora and fauna are recorded on the Parks Victoria Environmental Information System and DSE statewide databases.*
- *Identify and encourage research into key threatening processes and major knowledge gaps.*
- *Undertake regular risk assessment and assess the major threats to habitats and communities, and review management programs as appropriate.*
- *Map habitats at scales suitable for management purposes and maintain and support an appropriate long-term habitat monitoring program as part of a relevant statewide marine habitat mapping and monitoring program.*
- *Implement priority actions from approved action statements or recovery plans to address threats to threatened species or communities listed under the Flora and Fauna Guarantee and Environment Protection and Biodiversity Conservation Acts.*
- *Work with seabird and shorebird conservation organisations to support seabird and shorebird monitoring programs within the parks.*
- *Encourage research to identify Indigenous knowledge relating to communities and species (sections 5.1 and 8.2).*
- *Reflect Indigenous knowledge of marine life in management practices as appropriate, and ensure that their significance to the Traditional Owners is respected in all management and visitor activities.*
- *Liaise with the City of Casey, Mornington Peninsula Shire and Bass Coast Shire Council to minimise the impacts of development of the adjacent foreshore on the natural values of the parks.*
- *Ensure all visitors comply with the National Parks Act and National Parks (Park) Regulations, Wildlife Act, Fisheries Act and Wildlife (Whale) Regulations when observing marine life.*
- *Respond to cetacean incidents in accordance with the Victorian Cetacean Contingency Plan (section 8.3).*

4.5 Landscape and seascape

The seascape and landscape to and from Western Port, Phillip Island, French Island, and the Mornington Peninsula are outstanding, with visual qualities and environmental attractions that invoke strong aesthetic appreciation within the community. The National Trust of Australia (Victoria) has classified the French Island and Churchill Island and Swan Bay landscapes and seascapes in recognition of their significance.

The landscape and seascape of the parks are intrinsic elements of *Country* for the Traditional Owners and are significant for Indigenous communities. The natural beauty of these protected areas and surrounds are the basis of a treasured lifestyle for local residents and an integral part of its attraction for visitors.

Landscape character types are used to broadly characterise different landscape types (DSE 2006). Churchill Island Marine National Park is within Landscape Character Type 1.2: Phillip Island Northern Coast, and is located in coastal landscapes of regional significance (DSE 2006). Further details about landscape management objectives and guidelines are provided in the Municipal Reference Document for the area. The landscape character of the Melbourne metropolitan area including the areas around Yaringa and French Island Marine National Parks was not assessed.

The area around Yaringa Marine National Park is characterised by an open lower coastal plain with intertidal mudflats at the edge, and saltmarshes and mangroves that extend from Sandy Point north to Quail Island and east to Stockyard Point. The north-west area from Hastings to Tooradin is of high visual significance, because of the natural coastal vegetation, including mangroves, and its importance for wildlife conservation.

The landscape around French Island Marine National Park is unique as a large, relatively unspoilt natural feature close to Melbourne and is of a sedimentary nature with gentle rolling landscape and a low and largely vegetated coastline of saltmarshes, and mangroves with intertidal mudflats.

The coastline of Swan Bay within Churchill Island Marine National Park includes several areas of significant mangroves and saltmarsh with some small sections of stony outcrops and cliffs, and Churchill Island is a small knoll, with a mixture of indigenous and exotic vegetation. The historic significance of the entry to Western Port at the eastern end (section 5.2) is notable.

The coastal areas of Western Port are attractive and remote, although subject to the impact of holiday house development taking advantage of the visual setting, proximity to the metropolitan area, sheltered bay beaches and ocean beaches and cliffs. *Siting and Design Guidelines for the Victorian Coast* (VCC 1998) provides guidelines to assist in the protection of coastal landscape values (section 7.2).

Local Council planning schemes regulate developments on the adjacent foreshore to protect the parks' landscapes (section 7.2). Coastal developments on the foreshore also require permission from the Secretary to DSE under the Coastal Management Act (section 8.3).

Aims

- Protect landscape and seascape values within the parks.
- Minimise visual impacts on the seascape and landscape, including management activities, and ensure any future developments are sensitively integrated with their natural settings.

Management strategies

- *Ensure that external agencies that have potential to affect landscape values consider their importance in planning and managing their activities (section 7.2).*
- *Respect the significance of landscape to the Traditional Owners, and consider the significance in planning and implementing management activities, interpretation and education programs (sections 4.1, 5.1, 6.1 and 8.2).*

4.6 Marine and other pests

Over 100 exotic marine species are known to have become established in Victorian marine waters (Hewitt et al. 1999). Some have become marine pests. While 18 exotic species have been identified in Western Port (Parry & Cohen 2001), evidence suggests that only 12 of these species have established self-sustaining populations in Western Port. Currie and Crookes (1997) identified seven exotic species in the Port of Hastings. Although the parks have not been thoroughly surveyed, no exotic marine species have been recorded to date.

Marine pests can have a devastating impact on Marine National Parks and Marine Sanctuaries. The introduction of marine pests into Victorian waters is listed as a potentially threatening process on Schedule 3 of FFG Act.

Victoria's management priorities in relation to marine pests are set out in the relevant FFG Action Statement (NRE 1999a).

Prevention of marine pest invasions is the most effective management option. Prevention involves reducing the likelihood that a pest will be introduced to the parks. In a very limited number of cases, with specific criteria, control measures may be attempted for established pest populations generally as part of a coordinated regional or national response. The early detection and rapid response of removing immature *Undaria pinnatifida* sporophytes growing near Flinders pier was successful preventing its spread into Western Port (Parry & Cohen 2001). However, experience elsewhere has shown that proposals to control established marine pests need to consider fully their likely effectiveness.

The interconnectedness of the marine environment and the ability of many marine pests to migrate over long distances mean that control measures may be feasible only in limited circumstances. For example, using techniques that are successful on land, such as physical removal by hand, might make the situation worse, as some marine pests regenerate fully from fragments dislodged during removal. Where implemented, control measures will meet national guidelines for managing marine pests. Because of the possibility of misidentifications or exacerbation of the pest problem, control measures will need to be part of authorised programs. In some cases, further nationally coordinated research is required into control measures.

Victorian marine pest emergency management arrangements (*Interim Victorian Protocol for Managing Exotic Marine Organism Incursions)* (NRE 1999b) will form the basis for responding to new introductions and existing incursions of marine pests. The adoption of the *Waste Management Policy (Ships' Ballast Water*) (EPA 2004) for Victorian waters will help reduce the risk of marine pest incursions from ships' ballast water (section 7.2). Emergency responses to marine pest outbreaks in Victoria are managed as part of agreed national arrangements for marine pest emergencies. The Consultative Committee for Introduced Marine Pest Emergencies provides national oversight.

Parks Victoria actively supports the protocol by adopting best practice within the organisation and educating and informing the community about prevention measures.

Vessel-cleaning and maintenance guidelines to help prevent the spread of marine pests (DSE 2004) aim to reduce the risk of spreading marine introduced pests by providing practical solutions for vessel operators to facilitate cleaning gear and hulls. Supporting initiatives include *Cleaner Marinas: EPA Guidelines for Protecting Victoria's Marinas* (EPA 1998).

Parks Victoria Rangers, Fisheries Victoria Fisheries Officers, community-based organisations (e.g. dive clubs), and visitors play an important role in the monitoring and early detection of marine introduced pests in the parks (section 8.2).

Terrestrial plant pest species can be a problem in parts of the intertidal areas within the parks. *Spartina anglica*, commonly known as cord or rice grass, is a serious threat to estuaries and coastal environments; it is an introduced pest plant and is declared as a noxious aquatic species under the *Fisheries Act 1995* (Vic.). *Spartina* thrives near sources of fresh water and has the ability to spread rapidly, choking estuaries and bays and causing sediment accretion, channelisation and altered hydrology. *Spartina* is established around the entrance of the Bass River in Western Port. Once established, *Spartina* has the potential to spread up to 500 m from shore on open mudflats within the parks (Hamilton 2001). Active management of *Spartina* strands within Western Port is required.

Domestic and feral cats and foxes from areas near the parks can kill birds and other native animals that use the intertidal area. The negative effect of both domestic and feral cats on wildlife is well documented. Domestic animals including cattle from adjoining farms, rabbits, feral goats and pigs have the potential to damage and degrade the intertidal area from trampling and eating vegetation, and potentially threaten fragile saltmarsh and mangrove vegetation in the parks. This risk can be reduced through the fencing of private property boundaries and implementing pest animal control programs.

Aims

- Minimise the risk of introduction of marine pests by human activities, and their subsequent establishment in the parks.
- Establish arrangements for the detection of new incursions within the parks in support of Victorian marine pest management arrangements.
- Implement national or Victoria-wide control arrangements as they relate to the parks.
- Control terrestrial pest plants and animals and minimise the impacts of control programs on the parks.

Management strategies

- *Support DSE in educating Parks Victoria staff, Fisheries Victoria Officers and the community to identify marine pests.*
- *Encourage friends and community groups, programs including Sea Search volunteers, researchers, licensed tour operators, and contractors to integrate the identification of marine pests into their activities and to report any sightings.*
- *Ensure that the detection of marine pests is reported in accordance with Victorian pest management arrangements and recorded on Parks Victoria's Environmental Information System and other relevant databases.*
- *Manage all pest incursions in accordance with the Interim Victorian Protocol (NRE 1999b) (section 8.3).*
- *Establish an ongoing program to minimise the risk of marine pest introduction and subsequent spread that addresses improving the understanding of the potential means of introduction and spread and formalising arrangements for prevention, reporting, monitoring and response.*
- *Undertake authorised pest programs only where research indicates that control or eradication is feasible and likely to be effective or as part of a coordinated regional or national response.*
- *Avoid translocation or new introductions by promoting boat-cleaning protocols for all recreational boats and contractors (section 6.3) in accordance with the DSE brochure 'Aquatic Pests: Treat 'em mean – keep your boat clean'.*
- *Ensure that management vessels operating in the parks are maintained according to Victorian Government boat-cleaning protocols (DSE 2004).*
- *Include boat-cleaning protocols in contracts, licences or permits of contracted vessels, research vessels, and commercial and licensed tour operator vessels operating in the parks.*
- *Ensure that any new marine infrastructure within the parks is treated to remove any marine pests.*
- *Encourage recreational divers to adopt protocols to ensure that diving equipment is clean (section 6.4).*
- *Encourage research into marine pests and the development of control programs for marine pests.*
- *Continue integrated terrestrial pest plant and animal control program, support programs with adjacent land managers, and coordinate programs conducted by volunteers.*
- *Liaise with coastal land managers to coordinate Spartina control programs.*
- *Encourage adjacent landowners to establish or maintain boundary fencing.*
- *Encourage the City of Casey, Cardinia Shire, Mornington Peninsula Shire, and Bass Coast Shire Council to implement cat curfew by-laws in residential areas near Churchill Island Marine National Park and Yaringa Marine National Park.*

5 STRATEGIES FOR CULTURAL VALUES CONSERVATION

5.1 Indigenous cultural heritage

Indigenous tradition indicates that the parks are part of *Country* of Boonwurrung. Indigenous communities have a long association with the coastal areas around Western Port. Western Port and the surrounding region were rich in food sources for Indigenous people, and artefacts and middens along the coast and inland indicate that the Boonwurrung have inhabited the area for at least 6000 years and provide an important chronological record of life. At the end of the last glacial phase, about 6000 years ago, the sea level rose to flood Bass Strait and the sunk land of Western Port where Indigenous communities once hunted animals and collected food. The Boonwurrung visited the islands in Western Port using canoes constructed from bark to hunt and collect eggs.

The Boonwurrung and four other wurrungs (language groups) form the federation group Kulin Nation, which occupied an area covering most of central Victoria. The Boonwurrung's *Country* extends through the Port Phillip and Western Port area from the Werribee River in the west to the Tarwin River in South Gippsland.

Three of the six clans that made up the Boonwurrung language group inhabited the coast and inland areas around Western Port. The Boonwurrung lived as hunters and gatherers and seasonal changes in the availability in food determined where the clans travelled and set up campsites.

Although the clans moved around to hunt and gather shellfish from the reefs and collect fresh water from rock wells, they essentially inhabited a particular area. The Burinyung-Bulluk clan frequented the coastal area from Point Nepean to Hastings. The women of the Burinyung-Bulluk clan and from other Boonwurrung clans gathered at Point Nepean - a spiritual place for women.

The Mayone-Balluk inhabited the coastal and inland areas between Port Phillip and Western Port, and the Yallock-Balluk inhabited the coastal and inland areas around the north and east of Western Port.

Physical conflicts, new diseases and the reduction in food resources associated with European settlement, and warring with the neighbouring Gunai/Kurnai clans, dramatically reduced the Boonwurrung population. Clans found it difficult to maintain their way of life and in many places were evicted from their land. However, the Boonwurrung still have strong associations with the parks.

There are no known Indigenous places or objects within the parks. However Indigenous places and objects are expected to be present. No research to identify Indigenous places or objects within the parks has been undertaken.

All Aboriginal places, objects and Aboriginal human remains are protected under the Aboriginal Heritage Act (section 2.5). It is an offence to damage, interfere with or endanger an Aboriginal place, object or human remains except in accordance with a Cultural Heritage Management Plan developed with the relevant Registered Aboriginal Party or where there is no Registered Aboriginal Party with the Department of Victorian Communities (DVC).

Issues relating to the protection of Aboriginal cultural heritage are approached in accordance with this Act. Issues relating to native title are dealt with according to the Native Title Act (section 2.5).

Aims

- Protect Aboriginal places and objects from interference or damaging activities.
- Respect the views of the Traditional Owners in managing the parks.

Management strategies

- *Protect Aboriginal places and objects from disturbance and damage in partnership with the relevant Registered Aboriginal Party and DVC (section 8.3), and in accordance with:*
  - *relevant legislation including the Aboriginal Heritage Act*
  - *relevant cooperative management agreements*
  - *Parks Victoria's Guidelines for Working with Aboriginal Communities*

and Protection of Cultural Sites (Parks Victoria 2002).

- *Respect the views of the Traditional Owners and the cultural obligations of Indigenous communities.*
- *Assess annual park programs to integrate relevant Indigenous practices and minimise the potential for impact of park management activities on Aboriginal cultural heritage, in consultation relevant Registered Aboriginal Party.*
- *Maintain confidentiality in respect of Indigenous cultural obligations, knowledge, places, objects and aspirations, in accordance with the views of the relevant Registered Aboriginal Party (sections 6.1 and 8.2).*
- *Where appropriate, encourage research into the Indigenous cultural heritage relating to the parks in collaboration with the relevant Registered Aboriginal Party and in liaison with AAV (section 8.3). Use results to target protection and other management activities (sections 6.1, 6.2, 7.1 and 7.2).*
- *Work with the relevant Registered Aboriginal Party to assess and identify Indigenous cultural heritage suitable for promotion and interpretation (sections 6.1 and 8.2).*

5.2 Maritime and other cultural heritage

On a voyage from Port Jackson, Bass and a volunteer crew aboard an open whaleboat entered and named Western Port in 1798. Bass also named Snapper Island, later named Phillip Island, in 1797. In 1801 Lieutenant James Grant, aboard the *Lady Nelson*, took refuge in Western Port against bad weather. Grant and a fellow crew member Ensign Francis Barrallier, spent two months exploring Western Port. Grant named Churchill Island after John Churchill Esq. of Dawlish in Devon and planted Victoria's first garden and grain crop on Churchill Island. Grant also named the large central island Western Island and the lower island Grant's Island, later renaming it Phillip Island in honour of Captain Arthur Phillip, Governor of New South Wales.

In 1802 a French scientific expedition led by Captain Nicholas Baudin circumnavigated Western Island and named it Ile de Françoise (Island of the French people), now Anglicised and known as French Island. French Captain Dumont d'Urville also extensively surveyed Western Port in1826 aboard the *L'Astrolabe*. The results of the *L'Astrolabe* voyage produced a very thorough survey of the flora and fauna of the land and sea, the soils, the availability of water and wood and evidence of Indigenous occupation.

By 1826 sealers and escaped convicts had settled in Western Port. New South Wales Governors established a settlement in Western Port in 1826. The colonists landed alongside a sealers settlement near Rhyll and began to establish a settlement, but eventually chose to settle on a site just east of today's Corinella.

Bark collectors sailed over from Tasmania to collect wattle bark from the black wattles growing in the coastal areas of Western Port for use in the tanning of leather. Western Port continued to be inhabited by sealers and whalers, and the local Indigenous population. Western Port was a major base for sealers until the 1840s, by which time seal populations were almost depleted and sealing became uneconomical.

William and John Gardiner were the first settlers on French Island in 1850. French Island was briefly used for salt mining, and chicory was first grown on the island in the 1890s. Over 30 drying kilns were located on the island, some adjacent to the park. The McLeod Prison Farm opened in 1916 as a reformatory for prisoners. In 1975 it became a children's' adventure camp, before closing in 1987 and being sold as surplus land in 1996, eventually to be used as an organic farm.

Samuel Pickersgill and his family were the first settlers on Churchill Island in 1856. Pickersgill was dispossessed in 1866 by Cornishman John Rogers, who took out a Crown Land Lease. Rogers sold his lease to Samuel Amess, who later became the Lord Mayor of Melbourne. Amess was also a member of the Acclimatisation Society of Victoria and stocked the island with hares, quail, pheasants, rabbits, and highland cattle.

Phillip Island was described by early explorers as useless country with a poor water supply

and unsuitable vegetation for milling. In 1842 John McHaffie and his brother took out a pre-emptive right to occupy the 'Waste Lands of the Crown known as Phillip Island'. McHaffie bred cattle, sheep, and horses, including Woolama, the winner of the 1875 Melbourne Cup. McHaffie was also a member of the Acclimatisation Society of Victoria and considered Phillip Island to be an ideal location to breed foreign species. After his success breeding hares on Phillip Island, the society began distributing hares to other parts of Victoria.

Other settlers were granted the right to occupy Phillip Island, however their success was variable due to the unfavourable conditions on the island. In the early 1900s guest houses on Phillip Island became popular with holiday-makers and visitors flocked by train from Melbourne to the ferry to Phillip Island at Stony Point. In the late 1920s visitors began to visit Phillip Island to see the unusual parade of Little Penguins coming ashore to their burrows at dusk. The popularity of this phenomenon has increased and today over 500 000 people visit the parade annually.

Many privately owned boats and official ferries used the waters of Western Port to ferry passengers, goods and livestock between the islands, the mainland and also to Melbourne via Port Phillip. When the train line to Stony Point was completed in 1889, regular ferry services to French Island and Phillip Island began. In 1940 the bridge from San Remo to Newhaven was opened.

Western Port has provided anchorage for big ships including the *Queen Mary*, large naval ships, and large commercial vessels that can enter the port on any tide to access the refineries. Western Port's potential to contain a naval base was noted by Lieutenant James Grant in 1801, but it was not until 1912 that the Federal Government established the Naval Base, *HMAS Cerberus*.

In the late 1960s, the Government came very close to approving development plans that would have made French Island a major industrial site. This included an international airport, a causeway to Tooradin, a bauxite mill (aluminium smelter), factories, housing for over 3000 people, a toxic waste plant, and a nuclear power station. Fortunately, at the urging of environmentally aware locals, these plans were shelved following a very comprehensive study (Shapiro 1975), which recommended French Island be preserved. The Government decreed it a State Park, keeping its options open for forestry or other developments. Following further urging by locals and land managers, the Government created a National Park extending over two-thirds of the island in 1997. Several years earlier, a planning scheme was accepted, forbidding any new land sub-divisions less than 100 acres (40 hectares).

Heritage Victoria has primary responsibility for the management of shipwrecks and other maritime artefacts within the parks. Parks Victoria has established a Memorandum of Understanding with Heritage Victoria, which identifies respective roles and responsibilities with regard to protection and interpretation of shipwrecks, shipwreck artefacts and other archaeological sites within the boundaries of Marine National Parks and Marine Sanctuaries.

Although there are no known shipwrecks within the parks there are several ships known to have been lost in Western Port. There are no registered historic heritage places or relics within the parks.

A number of local environmental and community groups and individuals, residents and the education and research community maintain strong historical associations with the parks. Parks Victoria respects the community's traditional and historical associations with the parks.

Places of historic and cultural significance are managed in accordance with the Burra Charter of Australia ICOMOS and the provisions of the *Heritage Act 1995* (Vic.).

Aims

- Conserve and protect places and values of historic and cultural significance.
- Encourage learning and understanding about historic heritage of the parks.

Management strategies

- *Document history of past use and activity in the parks and adjoining coastal area, and protect any historic places and objects that maybe discovered from damaging or inappropriate activities.*

- *Cooperate with and support Heritage Victoria's maritime heritage research programs.*
- *Include historic heritage information in education, information and interpretation programs for the parks (section 6.1).*

6 STRATEGIES FOR VISITORS

6.1 Information, education and interpretation

Providing information, interpretation and education can help orientate and inform visitors, increase visitor enjoyment and satisfaction, foster an understanding and appreciation of the parks' special natural and cultural values, build understanding of management activities, and help visitors to experience the parks in a safe and appropriate manner. Parks Victoria delivers information, interpretation and education to visitors by various means, including its website, ranger patrols, Park Notes, signage, tourism brochures and other publications, displays, and licensed tour operators. These services may be developed and provided in collaboration with other agencies.

Having a representative system of Marine National Parks and Marine Sanctuaries in Victoria presents a unique opportunity to educate visitors and the broader community about the features and benefits of a statewide system of protected areas. At the same time, a range of information, interpretation and education products that are specific to the parks will be provided.

The remote and dynamic nature of the parks' natural environment can make access difficult. Visitors can obtain pre-visit information before visiting the parks to ensure that their access is safe, appropriate, and not damaging the fragile vegetation and mudflats. Pre-visit information and Park Notes (available in several languages) for the parks are available from Parks Victoria offices at San Remo, French Island, Coolart, Rosebud, the Parks Victoria Information Centre and website, and accredited information centres.

Orientation, information, and regulatory infrastructure, including information signs and regulatory totems, are outside the parks (section 7.2) at key access points on the adjacent foreshore, including the Churchill Island Bridge at Newhaven and local boat ramps around Western Port. The remote nature, undefined entry points and intertidal vegetation around the parks make it difficult to provide effective visitor orientation signage. As a result, an educational approach must be employed to complement boundary markers, signage, and publications.

Yellow onshore triangles mark the point where the park boundary intersects with the coast. The triangles point towards the Marine National Park, and in-water 'Special Marks' (yellow cross) on piles and yellow buoys define the water boundary of the parks (section 7.2 and figures 2a, 2b and 2c). Special Marks are also used to indicate a special area or feature, the nature of which may be found by consulting a navigational chart; some examples include spoil grounds, pipelines, recreation and pilot buoys and aquaculture reserves. The parks' boundaries can also be identified by using a global positioning system (GPS).

Existing interpretation and education for the parks (figures 2a, 2b and 2c) convey information on the parks' locations, boundaries, natural values, recreational activities, safety and compliance. Key themes for the parks focus on natural values, cultural heritage, boating regulations, minimal impact practices and visitor access, park health and catchment issues. Providing further information about the intertidal mudflats, seagrass, mangroves and saltmarsh and migratory wader and shorebird habitats in the parks (section 4.4) and access restrictions to sensitive intertidal areas (section 3.2) would increase the protection of these fragile environments and assist visitor appreciation and an understanding of the parks' values.

The parks provide opportunities to educate visitors about the marine environment and the need for its protection. A number of licensed tour operators also offer guided interpretive and nature observation activities. Tour operators licensed (section 6.7) to offer activities within the parks are located on Parks Victoria's website, (www.parkweb.vic.gov.au) or can be contacted through the Parks Victoria Information Centre on 13 1963. Rangers organise interpretive activities for community and school groups on request.

Coast Action / Coastcare offer school holiday, community and summer activity programs within Western Port.

Phillip Island Nature Parks and the Western Port Explorer offer school groups opportunities

to discover the unique marine environment of Western Port. The Dolphin Research Institute at Hastings has a Marine Conservation Centre that provides information to schools about Western Port's marine and coastal environments. Public education about the marine environment, the role of marine parks and the requirements for their protection, can be greatly facilitated by the establishment of marine education centres close to parks.

Boat-based access to the parks is recommended, although knowledge of the local conditions and tidal conditions is required. Public access to the intertidal area is only permitted in the un-vegetated areas of Churchill Island Marine National Park (section 6.2). Visitor activities have the potential to threaten sensitive vegetation and marine communities if visitor numbers and activities are not carefully managed (section 6.5).

To minimise visitor impacts, Parks Victoria (Parks Victoria 2003d) has developed Minimal Impact Guidelines (available on the Parks Victoria website www.parkweb.vic.gov.au) in partnership with providers of education to help manage these activities. Parks Victoria is working with the Department of Education to encourage schools to notify Parks Victoria (on 13 1963) of intended school group visits. Prior notification will allow teachers to obtain relevant education materials and advice on suitable sites, and help Parks Victoria to monitor the number and timing of visits.

Aims

- Promote and encourage visitors to discover, enjoy and appreciate the parks' natural and cultural values in a safe and appropriate manner through information, interpretation and education.
- Encourage public support for the parks and park management practices.

Management strategies

- *Continue to provide visitor information, interpretation and educational material appropriate to the parks and raise the profile of the parks among the local and wider community (section 8.1).*
- *Liaise with the City of Casey, Mornington Peninsula Shire and Bass Coast Shire Council in the development of integrated signage, and visitor information, interpretation and educational material.*
- *Provide further information about intertidal mudflats, seagrass, mangroves and saltmarsh and migratory wader and shore bird habitats to increase their protection and the appreciation of their importance in the parks' ecosystems through:*
  - *displays in local information centres and the Churchill Island Information Centre*
  - *development of interpretive programs*
  - *promotion of existing interpretive tools.*
- *Develop and deliver interpretation related to the parks' other key themes, water quality and catchment issues, natural values, Indigenous and other cultural heritage, boating regulations, visitor access and management practices, to promote protection and foster appreciation by visitors (sections 4.2, 4.4, 5.1 and 5.2).*
- *Liaise with education providers, yachting and boat clubs, community and Friends groups, licensed tour operators to coordinate educational activities and ensure delivery of coordinated and consistent messages about key management strategies and interpretive themes.*
- *Continue to allow sustainable educational use by school and community groups, ensuring groups adopt the minimal impact guidelines and use areas outside the parks for shore-based activities.*
- *Introduce and maintain an education program for motorised and other vessel operators (including PWC) to help protect birds, and sensitive intertidal habitat and shallow seagrass meadows (sections 6.3 and 8.1).*
- *Advise visitors of the parks' limited access, to protect diverse habitats, geology, marine flora and fauna communities.*
- *Develop and implement an ongoing education strategy on the reasons for the prohibition of public access in most intertidal areas through Park Notes, information signs and ranger patrols.*

Integrate minimal impact messages for intertidal areas into existing information, interpretation and education programs and promote greater appreciation of intertidal marine organisms (section 6.5).

- *Promote the need for schools to notify Parks Victoria (on 13 1963) of intended school group visits.*
- *Promote greater public understanding and appreciation of, and respect for, Indigenous culture by incorporating information about Indigenous culture, places and objects in information, interpretation and education programs, in collaboration and accordance with the views of the relevant Registered Aboriginal Party (sections 5.1 and 8.2).*
- *Provide appropriate opportunities and encourage and support Indigenous communities to participate in the interpretation of Indigenous cultural heritage relating to the parks with the agreement of the relevant Registered Aboriginal Party (section 8.2).*
- *Where appropriate, use Indigenous language for natural features, plants and animals in interpretive material and signs.*
- *Promote opportunities for education and interpretation programs through partnerships with providers of marine education programs.*
- *Regularly evaluate information and interpretive programs and success in communicating key themes and management practices.*

6.2 Access

The thick saltmarsh and mangrove vegetation that fringe the extensive intertidal mudflats make shore-based access impossible in Yaringa and French Island Marine National Parks. Public access through these areas is likely to damage fragile intertidal vegetation and mudflats and disturb roosting and feeding bird colonies. Water and shore-based access is prohibited to the vegetated intertidal area of Yaringa and French Island Marine National Parks, including Barrallier Island in French Island Marine National Park (table 1, figures 2a and 2b) (sections 3.2, 4.4, 6.1 and 7.1) except for adjacent land owners with access agreements that enable them to access their land on French Island via French Island Marine National Park.

There are no access tracks within the parks. A walking track adjacent to the Yaringa Marine National Park between Bungower Rd and Lumleah Rd enables visitors to view the park, however it does not enable access to the park. French Island National Park has nearby walking tracks at Gartsides Track off Causeway Road, however they do not provide access to French Island Marine National Park. Parks Victoria manages the tracks adjacent to French Island Marine National Park and Yaringa Marine National Park.

The intertidal area of Churchill Island Marine National Park contains cobble and shingle beaches interspersed with mangroves, saltmarsh and mudflats. Public access is only permitted on the cobble and shingle beaches. Visitors are not permitted to access intertidal areas vegetated with thick saltmarsh and mangroves (table 1, figure 2c) (sections 3.2, 4.4, and 6.1). Walking tracks adjacent to Churchill Island Marine National Park along the slopes of Churchill Island facilitate access to the park. Access tracks adjacent to Churchill Island Marine National Park are managed by Phillip Island Nature Parks. The management of access points requires a coordinated approach between Phillip Island Nature Parks and Parks Victoria (sections 7.2 and 8.3).

Boat-based access to the parks is recommended. Visitors need to carefully plan their visit and be aware of the dynamic tidal conditions in Western Port that can make boating access difficult (section 6.3). The shallow depth of some channels at low tide limit access for vessels (section 6.3).

There are no boat ramps in the parks, although there are many boat-launching facilities nearby at Stony Point, Hastings, Warneet, Cannons Creek, Blind Bight, Tooradin, Lang Lang, Grantville, Corinella, Newhaven, Cowes and Rhyll. Under the Land Conservation (Vehicle Control) Regulations 2003, motor vehicles including hovercraft (section 6.3) are not permitted to enter the intertidal area unless on a road including a designated boat ramp that is open to the public.

Vessels such as kayaks and canoes may be launched and landed in Churchill Island

Marine National Park by hand (but not vehicle), only over cobble and shingle beaches (table 1, figure 2c) (sections 3.2, 4.4 and 6.1). Launching and landing of vessels is prohibited in Yaringa Marine National Park to prevent damage to fragile intertidal vegetation (table 1, figure 2a) (sections 3.2, 4.4 and 6.1). Launching and landing of vessels is also prohibited in French Island Marine National Park except for land owners on French Island accessing their property through the park in accordance with an access agreement granted by the Minister (table 1, figure 2b) (sections 3.2, 4.4, 6.1 and 7.1).

The increase in urban development in the catchment will lead to increased recreational pressures with more residents using the Western Port area for recreation. This increase in recreational activities is expected to increase boat-based visitation. Maintaining appropriate boat access to the parks requires a coordinated approach between boat ramp managers and Parks Victoria.

Aim

- Ensure that access to the parks is appropriate and safe.

Management strategies

- *Prohibit public access to, and the launching and landing of all vessels in, the intertidal areas of Yaringa, Churchill Island and French Island Marine National Parks inside the Special Protection Area – Natural Values overlays, unless subject to an access agreement through French Island Marine National Park.*
- *Permit public access to, and the launching and landing of vessels such as kayaks and canoes by hand in Churchill Island Marine National Park only across the cobble and shingle beaches outside the Special Protection Area – Natural Values overlay.*
- *Liaise with the City of Casey, Mornington Peninsula Shire and Bass Coast Shire Council and other land managers in the management of shore-based access points to minimise the impact of access on the natural and cultural values of the parks.*
- *Liaise with the managers of local boat-launching facilities to encourage boaters to access parks appropriately.*

6.3 Recreational boating and surface water sports

Many types of motorised and non-motorised boating activities occur within the parks. Sailing by local yacht clubs and individuals, and sea kayaking is popular. Motorised boat users pass through the parks as fishing is popular in the waters outside their boundaries. Scuba diving may also bring motorised boats into the parks (section 6.4). Personal water craft (PWCs) may be seen infrequently in the warmer months.

Marine Safety Victoria (MSV) determines boating safety rules to establish speed limits, operating zones and conditions, which are gazetted in the 'Vessel Operating and Zoning Rules for Victorian Waters'. Parks Victoria is responsible for the management of port infrastructure and recreational boating in Western Port under the *Port Services Act 1995* (Vic.) (section 7.2). All boating activities, including kayaking and canoeing, are subject to the Marine Act. Although the parks are suitable for recreational boating, conditions can change quickly and create a safety hazard (section 6.8).

Western Port is a large tidal wetland with expansive mudflats and a network of winding deep channels that are exposed at low tide. Fast running tides and an extreme tidal regime make it essential for boat operators to have knowledge of the tides when operating a vessel on Western Port.

Where conditions are suitable for boating, vessels generally have minimal impact on the parks' values. However, vessels operated in shallow areas and exposed areas can damage the seabed, including sensitive seagrass and intertidal mudflats, through vessel groundings and propeller scarring (section 4.4). Vessels have been grounded on mudflats in Western Port due to the quick changes in tidal movement. Grounded vessels can only be refloated during the next high tide. The safety of vessel operators may be at risk from vessel groundings or sudden impacts with channel banks in shallow waters (section 6.8). Risks to vessel operator safety and impacts from vessels in the parks can be minimised by seeking the introduction of a 5 knot speed limit.

Vessel operators anchor within Chicory Lane in French Island Marine National Park to enjoy the tranquillity of the park. At times vessel operators shelter from bad weather in Chicory Lane overnight. Anchoring has the potential to damage the seafloor, especially in sensitive seagrass areas (section 4.4). To minimise damage to seagrass vessel operators should avoid anchoring over seagrass communities. The installation of public moorings in areas popular for anchoring may also minimise damage to seagrass communities. Private moorings within the parks will not be permitted.

Seaplanes, motorised, wind- and sail-powered vessels including hovercraft can also disturb roosting and feeding birds and marine mammals (section 4.4) through vessel noise and fast movement. The parks protect important roosting and feeding sites for local and migratory birds, protected under the Ramsar Convention (section 4.4). These sites are vulnerable to disturbance by vessels particularly during the migratory season from August until March.

Hovercraft by their design are able to access the shore line, shallow and exposed intertidal areas that are inaccessible to other vessels. Hovercraft can pose a serious threat to shorebirds and seagrass communities, especially if travelling over exposed intertidal seagrass communities and mudflats. Research shows that PWCs (Burger 1998) and hovercraft are particularly disturbing to roosting and feeding birds (section 4.4). Hovercraft are classed as vessels on water and must abide by all boating regulations including speed limits described in this plan. On land including exposed intertidal flats they are classified as vehicles and are regulated under the Land Conservation (Vehicle Control) Regulations 2003. Accordingly hovercraft will continue to be prohibited from travelling over exposed intertidal flats in the parks (section 6.2).

Prior to the proclamation of the French Island Marine National Park the intertidal area extending 150 m seaward of the high water mark of French Island and Barrallier Island was within the French Island National Park. Hovercraft and PWCs were prohibited within these areas. To further protect important roosting and feeding sites for local and migratory birds in French Island Marine National Park, a Special Protection Area – (Saltmarsh and Mangroves) overlay applies. The Special Protection Area covers the intertidal area 300 m seaward from high water mark of French Island where public access including all vessels will be prohibited (table 1 and figure 2b).

The Special Protection Area overlays in French Island Marine National Park do not extend into Chicory Lane. Vessel operators will still be able to access Chicory Lane to shelter from bad weather. Land owners on French Island are able to access their property through park in accordance with an access agreement granted by the Minister will be permitted (section 7.2).

Public access including all vessels will also be prohibited in the Special Protection Area overlays at Barrallier Island and in Yaringa and Churchill Island Marine National Parks (table 1, and figure 2a, 2b and 2c) (sections 3.2, 4.4 and 6.2).

Vessels can also conflict with other uses in the intertidal area including snorkelling, diving (section 6.8) and swimming (section 6.5). Boats can introduce marine pests if boat-cleaning protocols are not followed (section 4.6), and fuel leaks, oil spills and the disposal of wastes or sewage can have a significant impact on water quality (section 4.2) and flora and fauna (section 4.4). State Environment Protection Policies prohibit vessel operators from discharging sewage, oil, garbage, sediment, litter or other wastes to surface waters in any Victorian State waters. While the EPA Victoria has primary responsibility for pollution management, Parks Victoria supports the provision of waste-receiving and pump-out facilities at marinas, ports, and other suitable sites (section 4.2).

Parks Victoria, Victoria Police and the Department of Primary Industries Fisheries officers undertake regular water-based patrols and have contact with recreational boat users. Patrols offer an opportunity for boat users to learn about the parks.

Aim

- Provide for a range of boating and water sports activities within the parks while minimising impacts on the natural values.

Management strategies

- *Permit boating and surface water sports in the parks in accordance with table 2.*
- *Seek the introduction of a 5 knot speed limit to all vessel operators in the parks.*
- *Prohibit all vessels including launching and landing within the Special Protection Areas of the parks.*
- *Prohibit use of hovercraft from exposed intertidal areas within the parks (figures 2a, 2b and 2c).*
- *Permit anchoring within the parks, and encourage vessel operators to avoid anchoring over seagrass communities to minimise damage to these areas.*
- *Regularly observe boating activities particularly at French Island Marine National Park and assess impacts on the natural values. If activities increase and impacts from anchoring become apparent:*
  - *review the effectiveness of management measures*
  - *if necessary investigate, in consultation with boat operators, users and interest groups, the installation of public mooring infrastructure.*
- *Regularly observe boating around sensitive areas containing bird and seagrass populations, including anchoring, and, if necessary, manage activities to minimise impacts so they do not adversely affect values.*
- *Prohibit private moorings within the parks and remove any existing private moorings in Churchill Island Marine National Park.*
- *Liaise with recreational vessel operators at every practicable opportunity to promote safe and sustainable use and raise awareness of boat-cleaning protocols (section 4.6).*
- *Develop and promote educational material for vessel operators in Western Port in consultation with MSV.*
- *Undertake regular patrols within the parks to provide surveillance of user activity, enforcement of regulations, and opportunities to educate the parks users as to appropriate behaviour.*

6.4 Diving and snorkelling

Snorkelling and scuba diving enable visitors to experience underwater habitats and view species and habitats that are difficult to observe from above, particularly smaller or cryptic animals such as lampshells, pipefish, sponges, octopus, and cuttlefish. The turbid and muddy conditions of Western Port may limit visibility and create unfavourable conditions for diving and snorkelling. The extreme tidal regime and fast moving currents are a potential hazard for divers and snorkellers. The current levels of diving and snorkelling in the parks are low and are not likely to increase due to the low visibility and fast moving currents.

Scuba diving and snorkelling in the parks can take place privately or through a licensed tour operator. Scuba diving and snorkelling offered by licensed tour operators are managed by permit conditions that detail access, safety regulations, permitted activities and site-specific restrictions (section 6.7).

Divers and snorkellers need to be aware of potential dangers, particularly from vessels passing through the parks near dive sites (section 6.8). Under the Marine Act, scuba divers must dive with a flag indicating a diver below. Snorkellers are advised to display a flag indicating a diver below when snorkelling to increase their visibility and safety (section 6.8).

The provision of off-site information can guide and enhance diver experience (section 6.1). The potential for repetitive long-term damage to sensitive natural values, muddy environment and maintenance issues make the parks unsuitable for an underwater diving or snorkelling trail.

Potential impacts from diving and snorkelling include propeller scouring and anchor damage, fin disturbance to sensitive sediments, intertidal trampling, and illegal removal of flora and fauna. Educating divers and snorkellers about minimal impact practices and encouraging compliance codes of practice will minimise adverse impacts and assist with the management of the parks.

Divers should refer to the Dive Industry Victoria Association (DIVA) *Code of Practice: for Commercial Providers of Recreational Snorkelling and Scuba Diving*

Services in Victoria (DIVA 2004) or the Scuba Divers Federation of Victoria (SDFV) *Codes of Practice: General Operating Guidelines for Recreational Scuba Diving and Related Activities* (SDFV 2005). Snorkellers and scuba divers should refer to the *Snorkelling, Scuba Diving, and Wildlife Swims – Adventure Activity Standards* (ORC 2004 at www.orc.org.au).

Divers and snorkellers need to be aware of the no-take provisions, including spearfishing, in the parks and can assist in the early detection of marine pests in the parks (sections 4.6 and 8.2), and the detection of unrecorded cultural places and objects (sections 5.1 and 5.2).

Aim

- Provide for appropriate opportunities for diving and snorkelling in the parks.

Management strategies

- *Permit recreational, educational and licensed tour operator diving and snorkelling activities at dispersed locations in the parks in accordance with table 2.*
- *Review impacts from diving and snorkelling and the effectiveness of management measures and take appropriate action to reduce impacts.*
- *Integrate minimal impact messages into existing information, interpretation and education programs (section 6.1).*
- *Prohibit fixed structures that define an underwater trail within the parks.*
- *Promote the use of clean diving equipment to prevent the translocation of marine pests (section 4.6).*
- *Promote compliance of snorkellers and recreational scuba divers with relevant codes of practice and Adventure Activity Standards.*
- *Support dive clubs and industry representatives to promote environmentally responsible diving practices.*

6.5 Swimming and shore-based activities

The intertidal area of the parks is predominantly lined with saltbush, mangroves and intertidal mudflats and is, in some areas, completely inaccessible. The intertidal area does not provide good conditions for shore-based recreational activities such as swimming, sunbaking and walking, although it is scenic and includes very high natural values.

Trampling from public access to the parks via the intertidal area is likely to lead to significant damage and disturbance to fauna and flora and is only permitted on the cobble and shingle beaches of Churchill Island Marine National Park except in an emergency or for authorised research or management (sections 4.4 and 6.2). Nature observation is a popular activity within the parks but is conducted by boat due to the inaccessible nature of the intertidal area. Visitors, groups, schools and educational marine tours can help protect the parks by adopting sustainable/minimal impact practices while visiting (section 6.1).

There are no sandy beaches within the parks and no lifeguard-patrolled swimming areas (section 6.8). Parks Victoria recommends swimming in areas that are lifeguard-patrolled. Vessels have the potential to be a danger to swimmers in the parks (section 6.8).

The accessible intertidal areas of the parks will be cleaned and rubbish removed when required (section 4.2). The collection of living or dead organisms and natural driftwood is prohibited within the parks (section 4.4).

The lighting of fires within Marine National Parks and Marine Sanctuaries, including any beaches or islands, is not permitted except on board a vessel that is seaward of the mean high water mark.

Aim

- Protect the natural values of the parks from impacts of shore-based recreation.

Management strategies

- *Permit shore-based recreational activities in accordance with table 2.*
- *Prohibit public access to intertidal areas of the parks, except on cobble and shingle beaches outside the Special Protection*

Area – Natural Values overlay in Churchill Island Marine National Park to avoid damage to natural values (sections 6.2 and 6.3).

- *Undertake regular patrols during popular periods for visits to encourage appropriate visitor use.*
- *Develop and implement an ongoing education strategy on the reasons for restricting public access to most intertidal areas (section 6.1).*
- *Encourage all visitors to Churchill Island Marine National Park, particularly education, school and other groups, to comply with the Parks Victoria Minimal Impact Guidelines.*
- *Encourage educational and other groups visiting Churchill Marine National Park to use areas outside the parks, or off-site marine education and interpretation.*
- *Arrange for educational and other groups visiting Churchill Marine National Park:*
  - *to be adequately supervised while in the park;*
  - *to not exceed class sizes for educational groups (maximum 30 participants per leader);*
  - *to not exceed 25 participants per leader, for formal interpretation and other groups, and;*
  - *to use suitable dispersed areas that are varied to reduce pressure, especially during high use periods.*
- *Minimise disturbance to seabirds and shorebirds by encouraging visitors to avoid seabirds and shorebirds roosting and feeding sites in Churchill Island Marine National Park.*
- *Undertake standardised monitoring of impacts of trampling on intertidal areas from educational use and review the effectiveness of management measures. If impacts increase, work with users to develop an appropriate carrying capacity for Churchill Island Marine National Park and consider limiting or reducing annual visitation numbers.*

6.6 Dogs and horses

The extensive intertidal mudflats and seagrass meadows provide foraging areas for seabirds and shorebirds, and the wide areas of mangrove and saltmarsh communities provide migratory shorebird and seabird habitat. Some of these species are listed for protection under the Flora and Fauna Guarantee Act and by international agreements including JAMBA and CAMBA (section 4.4). These sites are of State and international significance and the parks form part of the Western Port Ramsar Site.

Prior to proclamation of the parks, the intertidal area above low water mark lay within the North Western Port Nature Conservation Reserve (now in Yaringa MNP), French Island National Park (now in French Island MNP) and Churchill Island Heritage Farm (now in Churchill Island MNP) and dog walking was not permitted within these areas.

Dogs can have serious impacts on bird populations and other wildlife (Kirby, Clee & Seager 1993) through trampling, predation, disturbance, and faecal pollution. Their presence, scent, and noise may disturb birds, leading to reduced species numbers, lower numbers of returning birds and low weight in migratory birds.

Prior to proclamation of the parks, horse riding was not permitted in the intertidal or adjoining areas. Damage to fragile intertidal vegetation from riding horses from Bungower Rd through North Western Port Nature Conservation Reserve was prevented by fencing along the boundary.

Riding horses in the intertidal area has the potential to damage and disturb intertidal communities and vegetation through trampling.

Aim

- Prohibit dogs and horses from the parks, to protect the parks' natural values and ensure visitor safety.

Management strategies

- *Do not permit dogs or horses within the parks except where confined to a vessel.*
- *Liaise with Phillip Island Nature Parks to ensure dogs continue to be prohibited in*

the areas adjoining Churchill Island Marine National Park.

- *In partnership with Phillip Island Nature Parks update existing educational material about impacts of dogs in Churchill Island Marine National Park and promote through information signs and ranger patrols (section 6.1).*
- *Maintain fencing of the intertidal area abutting the North Western Port Nature Conservation Reserve near Bungower Rd to continue exclude horses from the intertidal area of Yaringa Marine National Park.*

6.7 Tourism services

Licensed tour operators (LTOs) play a key role in nature-based tourism in Victoria by offering guided park tours and supported recreation activities, and information that promotes park values and appropriate use. Licensed tour operators offer activities within French Island Marine National Park and Churchill Island Marine National Park, including kayaking, cultural and marine education, wildlife viewing, snorkelling and diving, and can also assist visitors to access the parks by boat.

Licensed tour operators are managed under a permit system, which includes access and safety regulations, permitted activities and site-specific restrictions in accordance with the National Parks Act and the Policy for Sustainable Recreation and Tourism on Public Land (NRE 2002).

Tourism Alliance Victoria is a membership-based industry association that provides a representative and professional development role for tourism businesses. Parks Victoria works collaboratively with Tourism Alliance Victoria in administering the Tour Operator Licensing system across Victoria's public land estate, including these parks.

Aim

- Provide opportunities for and encourage provision of external tourism services while minimising impacts on the natural and cultural values of the parks.

Management strategies

- *Ensure all tour operators using the parks are licensed and promote awareness of Adventure Activity Standards and Minimal Impact Guidelines.*
- *Continue to work with LTOs and the tourism industry to assist with the delivery of appropriate parks information.*
- *Ensure that tour operators comply with permit conditions, Parks Victoria Minimal Impact Guidelines and the Adventure Activity Standards.*
- *Work collaboratively with licensed tour operators and Tourism Alliance Victoria to ensure:*
  - *the provision of a high-quality service;*
  - *activities offered by LTOs are for an appropriate number of visitors, are at approved sites (sections 6.1 and 6.4), are compatible with the protection of park values, and are based on minimal impact practices;*
  - *that information conveyed to visitors on tours is consistent with the management objectives for the parks.*
- *Monitor the effectiveness of tourism services in contributing to objectives of the National Parks Act.*
- *Provide opportunities and encourage Traditional Owners to facilitate tours of appropriate Aboriginal places.*
- *Encourage licensed Indigenous tour operators to add to the tourism experience in the parks by developing and delivering interpretive and educational tours on Indigenous culture and history.*

6.8 Public safety

Some activities in the natural environment can pose inherent risks to visitors. This risk is increased if visitors are not familiar with the local environment, prevailing weather conditions and tidal height. Visitors need to be aware of safety risks to ensure a safe visit.

Potential dangers of land-based activities or intertidal walking include slippery and deep mudflats, unstable rocks, broken glass and rubbish and venomous fauna. Shore-based visitors are advised to consider weather and tide conditions, wear appropriate footwear and ensure adequate protection from the sun and wind.

A survey of Victoria's beaches in 1996 rated their safety as being in one of four hazard categories: safest, moderately safe, low safety and least safe. The beaches within Churchill Island Marine National Park have not been rated (Short 1996) and there are no patrolled swimming areas within the parks. Visitors should exercise caution while swimming or swim at patrolled beaches at Point Leo, Cowes or Woolamai. There are no beaches within Yaringa and French Island Marine National Park.

Although some sites in the parks may appear inviting for water sports, vessels, shallow mudflats and wave energy can make conditions dangerous. Visitors exploring the underwater environment need to be aware of the unpredictable nature of the marine environment. Risks associated with snorkelling and diving in the parks include vessels, fast moving currents, venomous marine animals, and exposure to cold. Snorkellers, swimmers and divers need to be aware of potential risks and should only undertake activities within their capabilities, under appropriate conditions.

Vessels can be a potential risk to swimmers, snorkellers and scuba divers, and vessel operators need to be aware of their presence in the water. Under the Marine Act, scuba divers must dive with a flag indicating a diver-below. Snorkellers should also adopt this practice when snorkelling to increase their visibility and safety (section 6.4). Public information and education programs are one of the most effective ways to promote safety (section 6.1). Safety messages are presented to visitors through signs, Park Notes and ranger patrols.

Boating in the parks can pose inherent risks to visitors. Vessel operators need to be aware of the local environment including changing weather conditions, shallow waters, channel banks and tide height as well as other vessels, swimmers, snorkellers and divers. Any person operating a powered recreational vessel in Victorian waters is required to have a current licence. Recreational boating accidents are highest in Victoria during summer and most fatalities are associated with recreational vessels of less than 8 m in length (Bugeja 2003).

Marine Safety Victoria conducts safety and awareness programs for recreational boat users, and the *Victorian Recreational Boating Safety Handbook* contains necessary safety information and outlines the requirements for operating a recreational vessel in Victoria (MSV 2005) (section 6.3).

Relevant agencies respond to incidents within the parks in accordance with the Municipal Emergency Response Plan. Parks Victoria's response to emergency incidents during normal operating activities within the parks is guided by the *Emergency Management Plan – Western Port* (Parks Victoria 2004).

Under the Port Services Act, Parks Victoria is the Local Port Manager of Western Port and has produced a Safety and Environment Management Plan (SEMP) (Parks Victoria 2005b) for the port. The SEMP is a risk management framework for managing the safety and environment of the port.

Aims

- Promote visitor safety and awareness of safety issues and risks within the parks associated with access and use.
- Promote and observe safe practices, and cooperate with emergency services.

Management strategies

- *Provide relevant visitor safety information (section 6.1) and encourage visitors to adopt safe operating guidelines appropriate to their activity.*
- *Investigate the installation of navigation aids where necessary to provide for the safe navigation of the parks by all vessels.*
- *Promote the display of diver-below flags by snorkellers.*
- *Incorporate the parks into the Emergency Management Plan – Western Port and ensure that staff and licensed tour operators are aware of the plan.*
- *Cooperate with and support responsible agencies in emergency response and ensure that Parks Victoria staff have adequate levels of training in emergency procedures.*
- *Consult with Phillip Island Nature Parks to coordinate risk signage along the foreshore adjacent to Churchill Island Marine Park.*

- *Liaise with City of Casey, Mornington Peninsula Shire and Bass Coast Shire Council to ensure that the Municipal Emergency Response Plans make adequate provision for likely incidents in the parks.*

7 STRATEGIES FOR AUTHORISED AND ADJACENT USES

7.1 Authorised uses

A number of uses and activities may be permitted in the parks, and to minimise impacts these are subject to specific conditions.

Parks Victoria recognises the contribution the filming and photography industry makes to the social and economic well-being of the community and in providing for such activities seeks to ensure protection of the natural and cultural values of the parks. Permits are required for all filming and photography conducted as part of a trade or a business. Amateur photographers and filmmakers do not require a permit.

All research and monitoring activities undertaken within Marine National Parks or Marine Sanctuaries by external partners or individuals require a research permit under the National Parks Act. Permits are issued by DSE.

Protected areas are generally avoided as locations for Australian Defence Force training exercises, although they are sometimes used for search and rescue, field navigation and incident response activities. Activities are subject to a permit with conditions to ensure that values of the parks are protected.

Melbourne Water manages Watsons Creek, a waterway that discharges into Yaringa Marine National Park at Watsons Inlet (section 4.2).

Petroleum extraction, exploratory drilling, mineral exploration and mining, and invasive searching for or extraction of stone and other materials, are prohibited in the parks under the National Parks Act. Petroleum exploration, such as a seismic survey from an aircraft or from a vessel that is carried out in a manner that does not detrimentally affect the seabed or any flora or fauna of the parks may be allowed with the consent of the Minister. However, the State Government has announced that it will not release any further areas in Victoria that contain Marine National Parks or Marine Sanctuaries for petroleum exploration. There is no petroleum exploration permit over these parks. Construction of pipelines or seafloor cables may be permitted with the consent of the Minister in some circumstances.

The National Parks Act provides for access agreements to be granted by the Minister for land owners who access their freehold land through the park. Such access does not include the construction of private infrastructure (section 6.2) and is subject to terms and conditions as the minister determines. To date, no formal access agreements have been granted.

Private infrastructure is not permitted in the parks. A private jetty was constructed within Yaringa Marine National Park prior to proclamation and has since been removed.

Aim

- Manage authorised uses in accordance with the National Parks Act and minimise their impact on park values.

Management strategies

- *Review all uses of the parks to identify those that do not conform with the objectives of the National Parks Act, including private uses and public authorities' activities. Allow uses to continue only in accordance with authorisations that are consistent with legislation and include conditions that effectively minimise the impacts of these uses on the parks.*
- *Monitor authorised activities to ensure that conditions of authorisations are met. Assess the effectiveness of conditions of authorisations in protecting the parks and seek review of authorisations, if necessary to arrest impacts.*
- *Seek permission from the Secretary to DSE for any public authority installations and services. Include conditions to ensure construction, operation and maintenance are consistent with protection of the parks' natural and cultural values and the amenity of visitors.*
- *Permit Australian Defence Force adventure training and field navigation exercises in the parks in accordance with Parks Victoria's operational policy and relevant permit conditions.*

- *Remove any private infrastructure within the parks.*

7.2 Boundaries and adjacent uses

The boundaries of Yaringa, French Island and Churchill Island Marine National Parks are shown in figures 2a, 2b and 2c, respectively.

As fishing is prohibited in the parks but permitted in adjacent waters, clear boundary identification is essential. In the sheltered waters of Western Port, in-water boundary markers and onshore markers are practical. Yaringa Marine National Park boundary is marked by two lead markers onshore at Yaringa Marina (figure 2a). The boundary of French Island Marine National Park is marked by a series of in-water pile markers with a yellow cross (Special Mark) and yellow triangle onshore markers at the eastern and western extent of the park (figure 2b). The boundary of Churchill Island Marine National Park is marked by an in-water pile marker with a yellow cross (Special Mark) at the entrance to Swan Bay and yellow triangle onshore markers at Long Point on Phillip Island and North Point on Churchill Island (figure 2c).

Adjacent sea uses

The waters adjoining the parks are also State waters. The adjoining seabed is currently unreserved Crown land. The Government accepted the ECC's recommendation that a Coastal Waters Reserve be established under the *Crown Land (Reserves) Act 1978* (Vic.) for the major portion of Victoria's marine area not otherwise designated for a particular purpose, to provide for a diverse range of activities that are compatible with long-term sustainable use (ECC 2000).

Parks Victoria is the Local Port Manager for Western Port under the Port Services Act. Under this legislation, Parks Victoria is responsible for managing port infrastructure including breakwaters, piers and jetties, and recreational boating including navigational aids, and for preparing and implementing the Port Safety and Environment Management Plan for Western Port (Parks Victoria 2005b) (sections 4.2 and 6.8).

The waters of Western Port are recreationally and commercially fished for Australian salmon, squid, yellow-eye mullet, snapper, gummy sharks, elephant fish, garfish, King George whiting and rock flathead. The Victorian Bay and Inlet Commercial Fisheries have undergone considerable restructuring following the implementation of a voluntary licence buy-out scheme in November 1999. Western Port also supports mussel and abalone aquaculture at the Flinders Aquaculture Fisheries Reserve (440 ha) located between Point Leo and Flinders. Commercial aquaculture of bivalves has the potential to increase the introduction and translocation of marine pest species. DPI has developed guidelines to prevent the introduction and translocation of marine pest species.

The waters of Western Port have many other uses. The Royal Australian Navy has two training bases: *HMAS Cerberus* and the West Head Gunnery Range located within Western Port.

The waters of Western Port are also used by the Port of Hastings. The port supplies raw materials to large industries – including ESSO/BHP Billiton's gas storage terminal and fractionalisation plant, and BlueScope Lysaght's steel sheet and coil plant – and exports to destinations in Australia and overseas.

The Port of Hastings is considered to be the preferred site for future container development, once capacity at the Port of Melbourne is reached. Hastings would supplement the Port of Melbourne and both ports would continue to operate in parallel. However, the development of Hastings for international containers would require substantial supporting infrastructure expenditure, and raise significant environmental management issues. The future development of the port has the potential to impact on the parks through sedimentation and changes to hydrological and sediment regimes from dredging, land reclamation and spoil disposal and an increase in the risk of oil and chemical spills.

Stony Point Jetty supports facilities for vessels such as tugs and pilot boats, ferry services to French Island, and coastal shipping services that carry livestock and small quantities of other goods.

Pollution from shipping, port activities and associated industrial activities has the potential to pose a risk to the natural and recreational

values of the parks. A major oil spill from commercial ships transporting crude oil into the Port of Hastings could have catastrophic consequences for the parks given the hydrology of Western Port. Increasing shipping, port activities and industrial activities along with the expansion of the Port of Hastings will increase the risk of pollution incidents.

Dredging in Western Port is undertaken to maintain commercial shipping channels and to aid management of recreational vessels around piers, jetties and boat ramps. Dredging can increase turbidity and further exacerbate the loss of seagrass within the parks and Western Port. All dredging operations require consent under the Coastal Management Act and must be carried out in accordance with Best Practice Environmental Management Guidelines for Dredging (EPA 2001).

Adjacent land uses

Yaringa Marine National Park adjoins the North Western Port Nature Conservation Reserve, which is managed by Parks Victoria. The part of the reserve within the City of Casey (figure 2a) is included in Public Conservation and Resource Zone in the City of Casey Planning Scheme (CoC 1995). The part of the reserve within the Mornington Shire is included in Public Conservation and Resource Zone, and Green Wedge Zone Schedule 2, in the Mornington Peninsula Shire Planning Scheme (MPS 1999). The planning schemes provide the statutory frameworks for managing the use, development and protection of land in accordance with the planning objectives of Victoria.

French Island Marine National Park, at high water mark, adjoins the French Island National Park, which Parks Victoria manages in accordance with the French Island National Park Management Plan (Parks Victoria 1998). French Island National Park is included in Public Conservation and Resource Zone in the French Island and Sandstone Island Planning Scheme (DOI 1999). French Island is an 'unincorporated locality'. The planning scheme is administered by the Department of Sustainability and Environment on behalf of the Minister for Planning, who is the Responsible Authority.

Churchill Island Marine National Park adjoins Churchill Island Heritage Farm and Phillip Island Nature Park components of Phillip Island Nature Parks, which are managed by Phillip Island Nature Parks Board of Management. The Phillip Island Nature Park also abuts private property. Trail bike riders have been illegally riding off-road through the Phillip Island Nature Park, east of Swan Corner, and in the intertidal area of the park. Cattle occasionally wander from unfenced freehold land through the Phillip Island Nature Park into the vegetated intertidal areas of the park. Trail bikes and cattle damage saltmarsh and mangrove vegetation, churn-up mud flats and disturb feeding migratory and resident wading birds in the park.

Churchill Island Marine National Park is within the Shire of Bass Coast. The Bass Coast Shire Council Planning Scheme (BCSC 2003b) provides the statutory framework for managing use and development of land above the high water mark adjoining the park; the Bass Coast Strategic Coastal Planning Framework (BCSC 2006) is a proposed reference document for the planning scheme.

The parks are an integral component of the Mornington Peninsula and Western Port Biosphere Reserve. The biosphere reserve was designated in 2002 and is a combined urban/rural UNESCO biosphere reserve. It was created to promote and demonstrate a balanced relationship between humans and the biosphere and has an area of 214 200 ha encompassing the Mornington Peninsula Shire, Phillip Island and French Island and the waters of Western Port. Parts of two national parks form most of the core area of the biosphere reserve and the marine national parks contribute to the buffer area (section 8.2).

Coastal modifications and other changes to the hydrodynamics nearby or adjacent to the parks, including artificial renourishment of the beach, could affect the natural and other values of the parks through longshore drift, deposition and erosion. All coastal uses and developments or modifications require permission from the Minister under the Coastal Management Act.

Aims

- Effectively communicate the location of the parks' boundaries.

- Minimise impacts on parks' values from adjacent developments.

Management strategies

- *Maintain and if necessary improve boundary markers, signs and information about park boundaries.*
- *Continue to identify areas of boundary uncertainty, conduct surveys and install markers where appropriate.*
- *Investigate effectiveness of land boundary markers, and increase their visibility where necessary.*
- *Work with Phillip Island Nature Parks to encourage adjacent landowners to fence boundaries abutting the Phillip Island Nature Park to exclude cattle and trail bikes.*
- *Seek to ensure that the parks' values are protected from impacts by developments or uses in nearby areas by liaising with their proponents, and assisting DSE to comment to the City of Casey, Mornington Peninsula Shire, Cardinia Shire Council and Bass Coast Shire Council in respect of planning applications that could impact on the parks (section 8.3).*
- *Liaise with adjacent land and water managers to minimise impacts from management actions on the natural and cultural values of the parks, and ensure that the parks' values are given due consideration in future developments.*
- *Work with DSE and consult City of Casey, Mornington Peninsula Shire and Bass Coast Shire Council to ensure coastal remediation works adjacent to or near the parks and beach renourishment activities have minimal impact on the parks (section 4.1).*
- *Liaise with aquaculture managers and DPI to ensure any applications for aquaculture development that may impact on the parks give due consideration to the potential spread of marine pests.*
- *Ensure that marine safety initiatives within the parks and adjacent waters, including the implementation of the Port Safety and Environment Management Plan improve environmental protection and visitor safety in the parks.*
- *Liaise with Port of Hastings to ensure that the parks are recognised in the future port development and that port development does not impact negatively on the parks.*

8 STRATEGIES FOR COMMUNITY AWARENESS AND INVOLVEMENT

8.1 Community awareness

Raising the community's awareness of the parks and their values is an important first step to developing the community's sense of custodianship for them. The members of the community are more likely to develop a sense of custodianship if they become involved in park management and park related social networks, and their views and values are respected. Broader public awareness and involvement follows with the development of strong park-related social networks among park staff, visitors and community participants in management.

Education and interpretation programs (section 6.1) play an important role in raising the awareness of the parks in the wider community. Parks Victoria aims to communicate the benefits of a healthy parks system and its contribution to the health of individuals and society through the 'Healthy Parks Healthy People' program.

The Coast Action / Coastcare summer activity program is a prime example of encouraging the broader community to experience the coast (section 8.2). Individuals, including volunteers engaged by organisations such as the Victorian National Parks Association, and community groups, including local sailing clubs, are committed to increasing community awareness of environmental issues that affect Western Port and those that relate to Marine National Parks.

Associations with organisations including the Phillip Island Nature Parks, Dolphin Research Institute and the Mornington Peninsula and Western Port Biosphere Reserve Foundation have also increased community awareness of Marine National Parks.

Government agencies, business associations, welfare bodies, Indigenous and ethnic associations, tourism and recreational organisations and schools could also help to build community awareness within their networks (sections 8.2 and 8.3).

Aims

- Increase the community's awareness and understanding of the parks' values and management activities.
- Support the sense of shared ownership and custodianship for the parks among community groups and individuals.

Management strategies

- *Promote opportunities for community members to improve park management through taking shared responsibility and becoming directly involved in Sea Search activities and through interpretation and other information (section 6.1).*
- *Profile to the wider community the work of Friends, volunteers and community groups.*
- *Promote the benefits of assisting park programs to community groups in line with 'Healthy Parks Healthy People' objectives.*
- *Partner with community groups to identify opportunities to increase public awareness about the parks.*

8.2 Community participation

Participation of community groups and individuals in the parks' management is pivotal in effective long-term planning, use and care of the parks' values.

The Traditional Owners have considerable interest in and aspirations for the parks as part of *Country*. They are an important potential source of knowledge about the area that has yet to be documented. A strong working relationship with relevant Registered Aboriginal Party will be essential to reflecting Traditional Owners views in the parks' planning and management and reconciliation of their interests and aspirations with those of other members of the community.

Volunteers and community groups make valuable contributions to park management projects. They bring diverse and valuable information, knowledge, skills and experience

to the parks that may otherwise not be available to the parks' managers. Volunteers also bring great enthusiasm and add valuable resources to assist with the care of the parks.

The interests of community groups in the parks often overlap and may not be complementary. There can be considerable mutual benefits where such groups work together and with Parks Victoria to achieve common goals.

There is no current Friends Group for the parks. Local Friends Groups that exist nearby include the Friends of Churchill Island Society Inc, Friends of French Island, Friends of Warneet, and Phillip Island Conservation Society. The Victorian Wader Study Group monitors migratory and resident wading birds at Barrallier Island within French Island National Park. Data collected by the Bird Observers Club of Australia, Australian Wader Studies Group and the Victorian Wader Study Group within the parks and adjacent areas, including the Western Port Ramsar Site, have contributed significantly to an understanding of the importance of Western Port as a Ramsar Site and as part of the East Asian–Australian Flyway (section 4.4).

Other volunteer organisations, including Western Port Bird Observers Club (branch of the Bird Observers Club of Australia), Western Port Peninsula Protection Council Inc, Western Port Seagrass Partnership, Western Port Research Coordination Project, the Field Naturalists Club of Victoria, Birds Australia, and tertiary and work experience students, may assist in various projects to benefit the parks.

Sea Search is a monitoring program whereby volunteers undertake systematic surveys of the parks' seagrass communities in accordance with standard approved methodology. The first Sea Search activity in the parks was undertaken in January 2007. The results of Sea Search monitoring will provide information on the condition of the seagrass and associated fauna communities in the parks and potentially detect any changes over time.

The Coast Action / Coastcare program works with a variety of volunteer groups and community organisations to help protect, monitor, manage and restore coastal and marine environments. In addition, Coast Action / Coastcare conduct education, training and awareness-raising programs.

Aims

- Encourage and support the active participation of community groups and volunteers, particularly Indigenous communities, in projects that contribute to or complement park programs.
- Inform, enrich and strengthen the parks' management with the community's tradition, knowledge, experience, skills and enthusiasm, particularly that of the Traditional Owners.

Management strategies

- *Work to continue to build, and strengthen and maintain relationships with relevant Indigenous communities. In particular, seek to further develop a close inclusive working partnership with the relevant Registered Aboriginal Party.*
- *Seek to establish or expand Friends groups and volunteer groups, support them in assisting the parks' management and ensure sustainable and rewarding volunteer experiences.*
- *Coordinate opportunities for Friends and volunteer and community groups to share experiences and discuss management objectives, work programs and progress in implementing the plan with Parks Victoria rangers.*
- *Support initiatives that build the capability of community members and groups to effectively contribute to park management objectives.*
- *Maintain ongoing dialogue with active groups, neighbouring clubs and community groups with a broad community agenda, as well as appropriate training and other measures that better enable their participation in managing the parks. Promote and support such groups to network and work together with each other and Parks Victoria to achieve shared goals for the parks.*
- *Lead and support Sea Search activities in the parks and report results of monitoring in local media and through community information sessions.*
- *Promote and support Coast Action / Coastcare programs within the parks,*

particularly focusing on community interpretation and education.

- *Promote community involvement in monitoring and recording programs using standard methods (sections 4.4 and 4.6).*
- *Seek to establish a Memorandum of Understanding (MOU) and working protocols with the relevant Registered Aboriginal Party and Indigenous communities regarding the assessment of annual works programs.*
- *Partner with community groups to foster ongoing community engagement that captures the diversity of people, ideas and opinions present in the community.*

8.3 Agency partnerships

Although Parks Victoria is responsible for overall management of the parks, other agencies are responsible for planning, managing or regulating certain activities in the parks.

All activities relating to the parks that are carried out by Parks Victoria or other agencies need to accord with all legislation and government policy and, as far as practical, be consistent with agencies' policies and guidelines. To ensure this occurs, park staff work closely with staff of relevant agencies and collaborate in implementing activities where appropriate.

The Department of Sustainability and Environment (DSE) establishes parks, oversees the management of land and resources of Victoria's coastal Crown land and waters, and provides strategic direction and policy advice for management of the parks, including marine flora and fauna values and threatening processes. Parks Victoria is a support agency for responses to oiled wildlife and cetacean stranding or entanglement, operating at the direction of DSE (sections 4.2 and 4.4).

As part of an agreed service delivery arrangement, Fisheries Victoria – Department of Primary Industries has primary responsibility for enforcement to ensure compliance with the fishing prohibitions in the National Parks Act. Parks Victoria will continue to collaborate with Fisheries Victoria and Victoria Police in activities such as cooperative Ranger and Fisheries officer patrols and support arrangements in accordance with the *City and Bays Regional Compliance Plan* (Parks Victoria 2003a).

The Central Coastal Board (CCB) provides direction and policy advice to facilitate sustainable development of the central region of the Victorian coast through the implementation of the Victorian Coastal Strategy (VCC 2002) and Coastal Priorities for the Central Region (CCB 2003) (section 4.2).

Port Phillip and Westernport Catchment Management Authority is responsible for ensuring the protection and sustainable development of land, vegetation and water resources within the region, including the preparation of a regional catchment strategy to address the impact of land use and management on the catchment. The Port Phillip and Western Port Regional Catchment Strategy (PPWPCMA 2004) focuses on the management of land, water and biodiversity including the coastal and marine areas under the *Catchment and Land Protection Act 1994* (Vic.) (section 4.2).

The Environment Protection Authority (EPA Victoria) has the primary responsibility for environment protection of all waters in Victoria and is responsible for administering and enforcing the *Environment Protection Act 1970* (Vic.), including all activities relating to the discharge of litter and waste to the environment. EPA Victoria also develops and implements State Environment Protection Policies (SEPP) for State waters (section 4.2).

Melbourne Water manages rivers, creeks and major drainage systems throughout the Port Phillip and Western Port region. Melbourne Water has the primary responsibility for maintaining or improving the ecological health of rivers and creeks through erosion control, protecting riverbeds and banks, revegetation, weed control and by ensuring sufficient flows. Melbourne Water and local Councils manage stormwater run-off and associated inputs into the parks in accordance with the *Operating Charter for Waterways and Drainage* (Melbourne Water 1999) and Council Stormwater Management Plans.

Parks Victoria is a support agency for Marine Safety Victoria at a statewide and regional level for marine pollution incidents, contributing on-site response and incident

management as well as technical advice. Parks Victoria is also the local authority responsible for administering the Marine Act, including marine safety initiatives (section 6.8) and planning and implementation of pollution response in accordance with the *Victorian Marine Pollution Contingency Plan* (MSV 2002) (section 4.2). The Port of Hastings, including Long Island Point, Crib Point, Stony Point Jetties and approaches, is managed by Toll Western Port under contract to the Victorian Channels Authority.

The City of Casey, the Mornington Peninsula Shire, Cardinia Shire Council and the Bass Coast Shire Council have a key role in administering the planning scheme for land adjacent to the parks, including assessing developments that could have an impact on the parks' values. Parks Victoria provides input into planning applications to ensure that the parks' values are protected.

Due to the dual land tenure of the intertidal area, compliance management of some activities, such as dog regulations and access infrastructure, will require a cooperative approach with the City of Casey, the Mornington Peninsula Shire, the Bass Coast Shire Council and the Phillip Island Nature Parks.

The Mornington Peninsula and Western Port Biosphere Reserve Foundation was established to implement the UNESCO Man and Biosphere Program and supports a diverse range of conservation and sustainability projects, with benefits for communities across the biosphere reserve. The foundation has established an integrated catchment management project to clean up Watson Creek, which drains into Yaringa Marine National Park. This collaborative project involves three local governments (Frankston, Casey and Mornington Peninsula), Melbourne Water, EPA Victoria, Parks Victoria, industry and private land owners.

Through Aboriginal Affairs Victoria (AAV), the Department for Victorian Communities (DVC) has responsibility for administering legislation protecting cultural heritage (sections 2.5 and 5.1). The Department for Victorian Communities, AAV and the relevant Registered Aboriginal Party advise Parks Victoria on Aboriginal cultural heritage matters (section 5.1).

Heritage Victoria (DSE) is the central government agency that provides information and advice about places listed on the Victorian Heritage Register and Archaeological Inventory. It supports the Heritage Council through research, recommends additions to the Register and issues permits for alterations to heritage places.

Tourism Victoria is the State Government authority responsible for developing and marketing Victoria to Australian and international travellers.

Aim

- Enhance park management by collaborating with other agencies to ensure they give appropriate consideration to parks values in planning and implementing activities that relate to the parks.

Management strategies

- *Work collaboratively with all agencies to implement the plan vision and directions. In particular, work with:*
    - *AAV and the relevant Registered Aboriginal Party on issues relating to cultural heritage protection (section 5.1)*
    - *the Central Coastal Board on any future plans and strategies that relate to the parks and to improve integration of programs impacting on the parks*
    - *the City of Casey, Mornington Peninsula Shire, Cardinia Shire and Bass Coast Shire Council to facilitate complementary management of the adjacent foreshore reserve and administration of planning schemes, including input into adjacent or nearby developments that may impact on the parks and the promotion of responsible pet ownership (section 7.2)*
    - *DSE regarding future planning and management, including protection of marine flora and fauna from potentially threatening processes*
    - *EPA Victoria to minimise impacts associated with discharge of waste into the environment particularly from stormwater, boating, shipping,*

marinas, ports and associated dredging activities (section 7.2) and assist local communities to develop a NEIP (section 4.2)

- *EPA Victoria and Melbourne Water to minimise impacts associated with discharge of waste into the environment particularly from Watsons Creek*
- *Fisheries Victoria to implement the fishing prohibition and the City and Bays Regional Compliance Plan*
- *Heritage Victoria on heritage management and compliance with the Heritage Act*
- *Marine Safety Victoria on recreational boating safety and marine pollution incidents*
- *Melbourne Water to minimise impacts associated with discharge of waste into the environment and discharge from waterways*
- *Mornington Peninsula and Western Port Biosphere Reserve Foundation on any conservation and integrated catchment management projects that contribute to the protection of the parks*
- *Port Phillip and Westernport CMA to reduce the impacts of land use and catchment management on the parks and develop appropriate actions in the Regional Catchment Strategy*
- *State and regional tourism authorities to promote the parks in regional visitor information centres and regional tourism strategies*
- *Toll Western Port on planning and implementation of marine safety initiatives within the Port of Hastings, including Long Island Point, Crib Point, Stony Point Jetties and approaches.*

- *Update contingency plans for marine pollution incidents, such as oil and chemical spills, and cetacean/wildlife incidents as required, and communicate arrangements to staff, relevant agencies and interested parties.*

9 PLAN IMPLEMENTATION

9.1 Delivery and reporting

A range of approaches will be used to implement strategies in this plan. Some will be undertaken as part of routine management activities such as ranger visits; others will be addressed as part of regional programs undertaken across the State each year.

A priority list of all the strategies in the plan will be used to guide routine management, and identify detailed actions in annual regional programs. Priorities for regional programs vary from year to year, depending on available resources and government priorities.

At the end of each year, progress towards implementing strategies in the plan will be reviewed and the priority list updated. Staff report internally against 'on time and within budget' delivery of regional programs and whether the completed strategy has achieved the objective. Parks Victoria reports annually to Government on the overall delivery of regional and divisional programs. This broader reporting on management performance is available in annual reports prepared on the National Parks Act and Parks Victoria.

During implementation of the plan, Parks Victoria will work in partnership with the Traditional Owners. Ongoing collaborative activities with interested members of the relevant Indigenous communities, the wider community, scientists and agencies in realising the vision and management directions for the parks will be especially important as outlined in previous sections of the plan.

Implementation of the plan will be consistent with Parks Victoria's commitment to sustainable practices, which involves the delivery of operations, services and facilities in an ecologically and socially responsible manner with minimal use of expendable resources and minimal generation of waste.

In implementing the plan, management will respond to monitoring and research information as it emerges. Parks Victoria's Environmental Management Framework (EMF) makes this possible. Based on the International Standard for Environmental Management Systems (ISO 14001), the framework ensures that the future condition of values is considered in identifying threats and developing actions to ameliorate them. Over time, the success of actions is reviewed against set objectives to ensure ongoing learning and refinement of management. The selection of actions and treatments of threats is guided by the precautionary principle. Management options are evaluated on the basis of least impact on the environment. Treatment of threats with a potential for serious damage that is not addressed in the plan will not be postponed for lack of information.

Parks Victoria will use a variety of means to report to the community about the progress of implementation of the plan. The primary means will be through routine liaison between Parks Victoria, interested groups and individuals from the local community and relevant government agencies. In addition to giving regular updates, there will be opportunities for input by interested members of the community into annual priority setting and feedback on management performance. Events such as park open days and community and volunteer forums will offer similar opportunities for reporting and discussions about annual programs.

The results of monitoring and research work will continue to be available to the community as technical reports (available on the Parks Victoria website, www.parkweb.vic.gov.au).

Parks Victoria will also report on evaluation of the plan (section 9.3) at the start of the new or revised plan, through routine liaison and community forums and in the subsequent draft plan.

Future reporting on the Statewide Strategy (Parks Victoria 2003b) and State of the Parks reports (which will be available on the Parks Victoria website, www.parkweb.vic.gov.au) will also include information on management performance in the parks.

9.2 Plan amendment

During the ten-year life of the plan, amendments to the plan may only be made by the Secretary to DSE, following an authorised process, which includes community consultation.

Circumstances that might lead to amendment of the plan include:

- the results of monitoring or research, management experience or new information (such as greater understanding of new threatening processes) that indicate the need for a change in management direction
- significant changes in visitation or use
- a change in policy that calls into question plan objectives
- new legislation (such as significant boundary changes).

The plan may also be amended if an activity, development or use that conflicts with the provisions of the plan is approved by government (such as native title outcomes).

9.3 Evaluation and review

Periodically through the life of the plan, Parks Victoria will assess overall progress towards implementing the strategies in the plan and also assess progress towards achieving the plan vision and directions. These evaluations will inform a decision about whether a new or revised plan is required. The achievements of the plan will be assessed by considering performance areas such as the following.

Protecting natural values

- Overall benefit to biodiversity.
- Compliance with no-fishing provisions and park regulations.
- Timely management intervention to minimise threats.
- Minimal impact of permitted uses.

Protecting cultural values

- Progress towards working with the relevant Registered Aboriginal Party in managing the parks and in protecting and interpreting Indigenous cultural heritage.
- Timely management intervention to avoid damaging activities and threats.

Managing recreation and visitor use

- Managing impact from visitors, including individuals and school and tour groups.
- Meeting community expectations in relation to Parks Victoria's management of the parks.
- Improving community and visitor awareness.

Providing for research and promoting understanding

- Improving understanding of the composition and distribution of habitats and ecological processes.
- Ongoing participation by the Traditional Owners and the wider community.
- Clear identification of major knowledge gaps and threats.

Methods for evaluating the benefits of the plan are likely to be refined over time. Parks Victoria partners with external research agencies to establish benchmarks and indicators for major communities and habitats. Through sound monitoring and assessment methods this monitoring and research work will strengthen the basis for comparing management performance over time.

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GLOSSARY

Aboriginal cultural heritage – Aboriginal places, objects and Aboriginal human remains.

Accretion – slow addition to land by deposition of water-borne sediment.

Algae (seaweed) – photosynthetic plant-like organisms belonging to the kingdom Protista. Unlike plants, not differentiated into roots, stems and leaves. Commonly called seaweed.

Amphipod – a small crustacean of the order Amphipoda, such as the beach flea, having a laterally compressed body with no carapace.

Aquaculture – cultivation of fish, molluscs or other aquatic organisms in fresh or salt water.

Artefacts – an object produced or shaped by human craft, especially a tool, weapon, or ornament of archaeological or historical interest.

Ascidian (sea squirt) – common solitary or colonial marine animal.

Ballast water – water carried in a ship's tanks for stability; normally discharged to the sea when the ship is loaded, and can be contaminated with pollution or exotic organisms.

Beach renourishment – artificial renourishment of eroding beaches by pumping sand from a suitable part of the seabed.

Biodiversity – the natural diversity of all life: the sum of all our native species of flora and fauna, the genetic variation within them, their habitats and the ecosystems of which they are an integral part.

Biomass – the total mass of living matter within a given unit of environmental area.

Bioregion – an area with particular underlying environmental and ecological features.

Biosphere reserve – an international UNESCO conservation designation under Programme on Man and the Biosphere (MAB) that are created to promote and demonstrate a balanced relationship between humans and the biosphere. Biosphere reserves encompass a mosaic of ecological systems and consist of combinations of terrestrial, coastal, or marine ecosystems.

Biota – the combined flora and fauna of a region.

Bivalve – type of mollusc with a pair of hinged shells (e.g. scallop, mussel).

Catchment – the area of land that drains to a watercourse or estuary.

Cetacean – marine mammals of the order Cetacea, including the whales, dolphins, and porpoises, characterised by a nearly hairless body, anterior limbs modified into broad flippers, vestigial posterior limbs, and a flat notched tail.

Channelisation – to make, form, or cut channels in.

Coast – in broad terms, the sea and the seabed to the State limit (three nautical miles, or 5.5 km) and the land and inland waters within the coastal catchment.

Coastline – generally, where the land meets the sea.

Competition – an interaction between or among two or more individuals or species in which exploitation of resources by one affects any others negatively.

Copepods – any of numerous minute marine and freshwater crustaceans of the subclass Copepoda, having an elongated body and a forked tail.

Country – in Indigenous usage, all of nature, culture and spirituality relating to an area.

Cretaceous – of or belonging to the geologic time, rock series, or sedimentary deposits of the third and last period of the Mesozoic Era, characterised by the development of flowering plants and ending with the sudden extinction of the dinosaurs and many other forms of life.

Crown land – land belonging to the State.

Crustacean – arthropods of the class Crustacea, including lobsters, crabs, shrimps, and barnacles, characteristically having a segmented body, a chitinous exoskeleton, and paired, jointed limbs.

Cryptic – tending to conceal or camouflage.

Ctenophores – any of various marine animals of the phylum Ctenophora, having transparent, gelatinous bodies bearing eight rows of comb like cilia used for swimming; also called a comb jelly.

Customs – observances and practices of people (includes land management and resource use) in accordance with their tradition.

Cyanobacteria – photosynthetic bacterium of the class Coccogoneae or Hormogoneae, generally blue-green in colour and in some species capable of nitrogen fixation. Cyanobacteria were once thought to be algae: also called blue-green alga.

Dendric – form of a branching or treelike mark.

Diatom – a microscopic unicellular alga.

Dinoflagellates – small protozoans of the order Dinoflagellata, characteristically having two flagella and a cellulose covering and forming one of the chief constituents of plankton; including

bioluminescent forms and forms that produce red tide.

Disturbance – a rapid change in an environment that greatly alters a previously persistent biological community.

Driftwood – wood from natural a source, floating or that has been washed ashore.

Ebbing – receding tide.

Echinoderm – radially symmetrical marine invertebrates of the phylum Echinodermata, which includes the starfishes, sea urchins, and sea cucumbers, having an internal calcareous skeleton and often covered with spines.

Ecologically sustainable development (ESD) – development that improves the total quality of life both now and in the future, in a way that maintains the ecological processes on which life depends.

Ecosystem – a dynamic complex of interacting organisms and their associated non-living environment.

Ecotourism – tourism involving travel to areas of natural or ecological interest, typically under the guidance of a naturalist, for the purpose of observing wildlife and learning about the environment.

Eocene – of or belonging to the geologic time, rock series, or sedimentary deposits of the second epoch of the Tertiary Period, characterised by warm climates and the rise of most modern mammalian families.

Endemic – unique to a particular area, and not found naturally anywhere else.

Epiphytic – a plant that grows on another plant upon which it depends for mechanical support but not for nutrients.

Estuary – an inlet or river mouth that is influenced by tides and freshwater inputs from the catchment.

Exotic marine organism/species – *See* Pest.

Ferruginous – of, containing, or similar to iron, or having the colour of iron rust: reddish-brown.

Flooding – advancing tide.

Floristically – of or pertaining to the flora of an area and the geographic patterns of distribution represented by its taxa.

Flotsam – in maritime law, applies to wreckage or cargo left floating on the sea after a shipwreck. The common phrase 'flotsam and jetsam' is now used loosely to describe any objects found floating or washed (respectively) ashore. *See also* Jetsam.

Foram – protozoans of the order Foraminifera, characteristically having a calcareous shell with perforations through which numerous pseudopods protrude.

Foreshore – generally, the land between a coastal road and the low water mark.

Freehold land – land under private ownership.

Gastropod – molluscs of the class Gastropoda, such as the snail, slug, cowrie, or limpet, characteristically having a single, usually coiled, shell or no shell at all, a ventral muscular foot for locomotion, and eyes and feelers located on a distinct head.

Geomorphology – the scientific study of landforms and geological formations and the processes that shape them.

Glacial – of, relating to, or derived from a glacier; a glacial epoch.

Groundwater – water beneath the earth's surface, often between saturated soil and rock, which supplies wells and springs.

Habitat – the preferred location or 'home' of an organism.

Heritage – a place, activity, cultural way of life, structure or group of structures that have aesthetic, historic, scientific or social value for past, present or future generations.

High water mark – the landward boundary of high water mark is the average of the highest tides (spring and neap).

Holocene – an Epoch of the Quaternary Period of geologic time, from approximately ten thousand years ago to the present.

Hydroid – small, tentacled animal related to corals and sea-jellies. Common but often overlooked.

Hydrology – the scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

Indigenous communities – indigenous people who share cultural values and activities relating to the parks.

Indigenous people – people who are descendants of Aboriginal Australians and Torres Strait Islanders.

Indigenous species – species that occur naturally in a region.

Infrastructure – physical structures that facilitate the human use of an area (e.g. roads, paths and toilet blocks).

Interglacial – occurring between glacial epochs.

Intertidal – the area between low and high tide levels, which is subject to daily changes in physical and biological conditions from tide movements.

Invertebrate – an animal without a backbone at any stage of development (e.g. worms, sponges, crustaceans, molluscs).

Jetsam – in maritime law, applies to cargo or equipment thrown overboard from a ship in distress and either sunk or washed ashore. The common phrase 'flotsam and jetsam' is now used loosely to describe any objects found floating or washed (respectively) ashore. *See also* Flotsam.

Mangrove – any of various similar shrubs or trees, especially of the genus *Avicennia*, having stilt-like roots and stems and forming dense thickets along tidal shores.

Marine National Park – in Victoria, highly protected areas reserved and managed under Schedule 7 of the National Parks Act that represent the range of marine environments in Victoria, and in which no fishing, extractive or damaging activities are allowed.

Marine protected area – a marine area that has some form of protection and is managed for conservation objectives.

Marine Sanctuary – in Victoria, a small, highly protected area reserved and managed under Schedule 8 of the National Parks Act to protect special values, and in which no fishing, extractive or damaging activities are allowed. These areas complement Marine National Parks.

Midden – a mound or deposit containing the remains of shellfish eaten by Indigenous people. Coastal shell middens can consist of the shells and other remains from a single meal or many different meals eaten in the same location over many years. Middens can also contain other cultural items such as stone and bone artefacts.

Miocene – from 25 million to 13 million years ago, during which grazing mammals appeared.

Mollusc – broad group of animals including snails, sea slugs, squids, octopuses, cuttlefish and mussels.

Mooring – a structure or apparatus used to secure any floating object. A private mooring is a mooring installed and maintained by any non-Government agency or individual other than Parks Victoria.

Morphology – the characteristics and configuration and evolution of rocks and land forms [syn: geomorphology].

Mudflats – low-lying seabed with a muddy substrate that is covered at high tide and exposed at low tide.

Neap tide – tide occurring twice every month between spring tides but is slightly lower.

Pest – exotic organisms (plants, animals or pathogens) that, if introduced outside their natural or previous distribution, cause significant changes to habitats, food chains, ecosystems or human health by feeding on or competing with native species. Can refer to either terrestrial or marine species.

Photosynthesis – the process by which organic molecules are made from carbon dioxide and water, using light energy. This process is essential for the growth and survival of plants and algae.

Phytoplankton – small plants that drift in open water.

Plankton – the collection of small or microscopic organisms, including algae and protozoans, that float or drift in great numbers in fresh or salt water, especially at or near the surface, and serve as food for fish and other larger organisms.

Pleistocene – the first Epoch of the Quaternary Period of geologic time, from approximately ten thousand to two million years ago, characterised by the alternate appearance and recession of northern glaciation, the appearance and worldwide spread of hominids, and the extinction of numerous land mammals, such as the mammoth.

Pneumatophores – an air-filled root (submerged or exposed) that can function as a respiratory organ of a mangrove, marsh or swamp plant.

Polychaetes – annelid worms of the class Polychaeta, including mostly marine worms such as the lugworm, and characterised by fleshy paired appendages tipped with bristles on each body segment.

Practices – the traditional land management and resource use practices of Indigenous people.

Predation – the consumption of one organism by another.

Prograde – the normal direction of flow.

Quartzose – a very hard mineral composed of silica, SiO_2, found worldwide in many different types of rocks, including sandstone and granite.

Ramsar Convention on Wetlands – an international agreement created in Ramsar, Iran, in 1971 to recognise wetland of international importance.

Recruitment – the residual of those larvae that have dispersed, settled at the adult site, made some final movements towards the adult habitat, metamorphosed successfully and survived to be detected by the observer.

Registered Aboriginal Party – registered under part 10 of the Aboriginal Heritage Act by the Aboriginal Heritage Council.

Remnant vegetation – remaining natural vegetation.

Saltmarsh – a coastal habitat consisting of salt-resistant plants residing in an organic-rich sediment accreting towards sea level.

Seagrass – highly specialised marine flowering plants adapted to grow in soft sediments in near-shore waters. Meadows/Beds of seagrass are commonly found in shallow coastal marine locations and estuaries.

Sediment – insoluble material carried in water, consisting mainly of particles derived from rock, soil and organic material; in particular such material that has settled out of the water, onto the seabed.

Sedimentation – the deposition of sediment on a surface.

Semidiurnal – occurring or coming approximately once every 12 hours, as the tides.

Sewage – household or commercial waste water including human and industrial wastes.

Sewerage – the system that facilitates the collection, transport, treatment and discharge of sewage.

Shellfish – an aquatic animal, such as a mollusc or crustacean, that has a shell or shell-like exoskeleton.

Sponge – multicellular filter-feeding animals with a variety of forms. Sponges are the simplest form of invertebrate life.

Sporophytes – the spore-producing phase in the life cycle of a plant that exhibits alternation of generations.

Spring tides – occur twice every month at new and full moon, and are the highest tides.

Stakeholder – an individual or group that has a vested interest in, or may be affected by, a project or process.

Stormwater – run-off from land during and following rain. Stormwater removes accumulated material including litter, soil, nutrients, pathogens, chemicals, pesticides, oils and grease.

Substrate – a surface on which an organism grows or is attached.

Subtidal – waters below the low tide mark.

Surfactants – a surface-active substance.

Tectonic – relating to, causing, or resulting from structural deformation of the earth's crust.

Tertiary – of or belonging to the geologic time, system of rocks, or sedimentary deposits of the first period of the Cenozoic Era, from approximately two million to 65 million years ago, and characterised by the appearance of modern flora and of apes and other large mammals.

Threatening process – a source of potential harm or a situation with a potential to cause loss.

Tradition – the body of knowledge, beliefs and customs that is passed from generation to generation.

Traditional Owners – person with traditional or familial links, an Aboriginal person with particular knowledge about traditions, observances, customs or beliefs associated with the area, and the person has responsibility under Aboriginal tradition for significant aboriginal places located in, or significant Aboriginal objects originating from, the area; or is a member of a family or clan group that is recognized as having responsibility under Aboriginal tradition for significant aboriginal places located in or significant Aboriginal objects originating from, the area.

Translocation – the transfer of pests from one area to a new area.

Turbidity – having sediment or foreign particles stirred up or suspended; muddy.

Values – natural and cultural assets (e.g. historic artefacts, features, species, communities) that have been given worth or are considered to be desirable.

Vascular plant – plants, such as the ferns and seed-bearing plants, in which the phloem transports sugar and the xylem transports water and salts.

Vessel – (as defined in the Marine Act) any kind of vessel that is used, or capable of being used, in navigation by water, however propelled or moved, and includes (a) a barge, lighter, floating restaurant or other floating vessel; and (b) an air-cushion vehicle, or other similar craft, that is used in navigation by water; and (c) any aeroplane that is designed for and capable of being waterborne, for so long as that aeroplane is waterborne.

Water column – water habitat extending between the surface and the seabed.

Wetland – land where saturation by water is the dominant factor for soil type and plant and animal communities (e.g. tidal areas, saltmarsh and mangroves).

Zooplankton – plankton that consists of animals, including the corals, rotifers, sea anemones, and jellyfish.

Abbreviations

AAV – Aboriginal Affairs Victoria

ANZECC – former Australian and New Zealand Environment and Conservation Council. ANZECC was represented by government Ministers and guided national policy and programs related to the management of the environment and its conservation

CAMBA – China-Australian Migratory Bird

Agreement

CMA – Catchment Management Authority

CSIRO – Commonwealth Scientific and Industrial Research Organisation

CRIMP – Centre for Research on Introduced Marine Pests

DIVA – Dive Industry Victoria Association

DSE – Department of Sustainability and Environment, formerly NRE

DVC – Department of Victorian Communities

ECC – Environment Conservation Council, formerly LCC

EPA – Environment Protection Authority

EMF – Environmental Management Framework of Parks Victoria.

EPBC – Environment Protection and Biodiversity

Conservation Act 1999 (Cwlth)

FFG – Flora and Fauna Guarantee Act 1988

JAMBA – Japan-Australian Migratory Bird

Agreement

GPS – Global Positioning System

IMCRA – Interim Marine and Coastal Regionalisation for Australia

IUCN – International Union for the Conservation of Nature

LCC – Land Conservation Council

LTO – Licensed tour operator

ML – Megalitre – 1 million litres

MOU – Memorandum of understanding

MSV – Marine Safety Victoria

NEIP – Neighbourhood Environment Improvement Program

NRE – former Department of Natural Resources and Environment

NRSMPA – National Representative System of Marine Protected Areas

ORC – Outdoor Recreation Centre

PPWPCMA – Port Phillip and Western Port Catchment Management Authority

PWC – Personal water craft

Scuba – Self contained underwater breathing apparatus

SDFV – SCUBA Divers Federation of Victoria

SEMP – Safety and Environment Management Plan

SEPP – State Environment Protection Policy

TFMPA – Taskforce for Marine Protected Areas

UNESCO – United Nations Educational, Scientific, and Cultural Organization

VCC – Victorian Coastal Council

APPENDIX 1 MANAGEMENT OBJECTIVES FOR MARINE NATIONAL PARKS

Management objectives for marine national parks and marine sanctuaries included on Schedule 7 or 8 of the National Parks Act are in Sections 4 and 17D as listed below. For an up-to-date copy of the *National Parks Act 1975* (Vic.), refer to Victorian Acts on the Victorian Legislation and Parliamentary Documents website www.dms.dpc.vic.gov.au.

4. Objects of the Act

The objects of this Act are –

(a) to make provision, in respect of national parks, State parks, marine national parks and marine sanctuaries –

(i) for the preservation and protection of the natural environment including wilderness areas and remote and natural areas in those parks;

(ii) for the protection and preservation of indigenous flora and fauna and of features of scenic or archaeological, ecological, geological, historic or other scientific interest in those parks; and

(iii) for the study of ecology, geology, botany, zoology and other sciences relating to the conservation of the natural environment in those parks; and

(iv) for the responsible management of the land in those parks;

(c) to make provision in accordance with the foregoing for the use of parks by the public for the purposes of enjoyment, recreation or education, and for the encouragement and control of that use.

Section 17D Marine national parks and marine sanctuaries

(3) The Secretary must –

(a) ensure that each marine national park and marine sanctuary is controlled and managed in accordance with the objects of this Act in a manner that will –

(i) preserve and protect the natural environment and indigenous flora and fauna of the park and any features of the park which are of geological, geomorphological, ecological, scenic, archaeological, historic or other scientific interest; and

(ii) promote the prevention of the introduction of exotic flora and fauna into the park; and

(iii) provide for the eradication or control of exotic flora and fauna found in the park; and

(b) subject to paragraph (a) –

(i) provide for the use, enjoyment and understanding of marine national parks and marine sanctuaries by the public; and

(ii) promote an understanding of the purpose and significance of marine national parks and marine sanctuaries; and

(c) prepare a plan of management in respect of each marine national park and each marine sanctuary.

APPENDIX 2 SUBMISSIONS ON THE DRAFT MANAGEMENT PLAN

A total of 12 submissions were received of the draft plan, comprising 10 from organisations, two from individuals and two marked confidential.

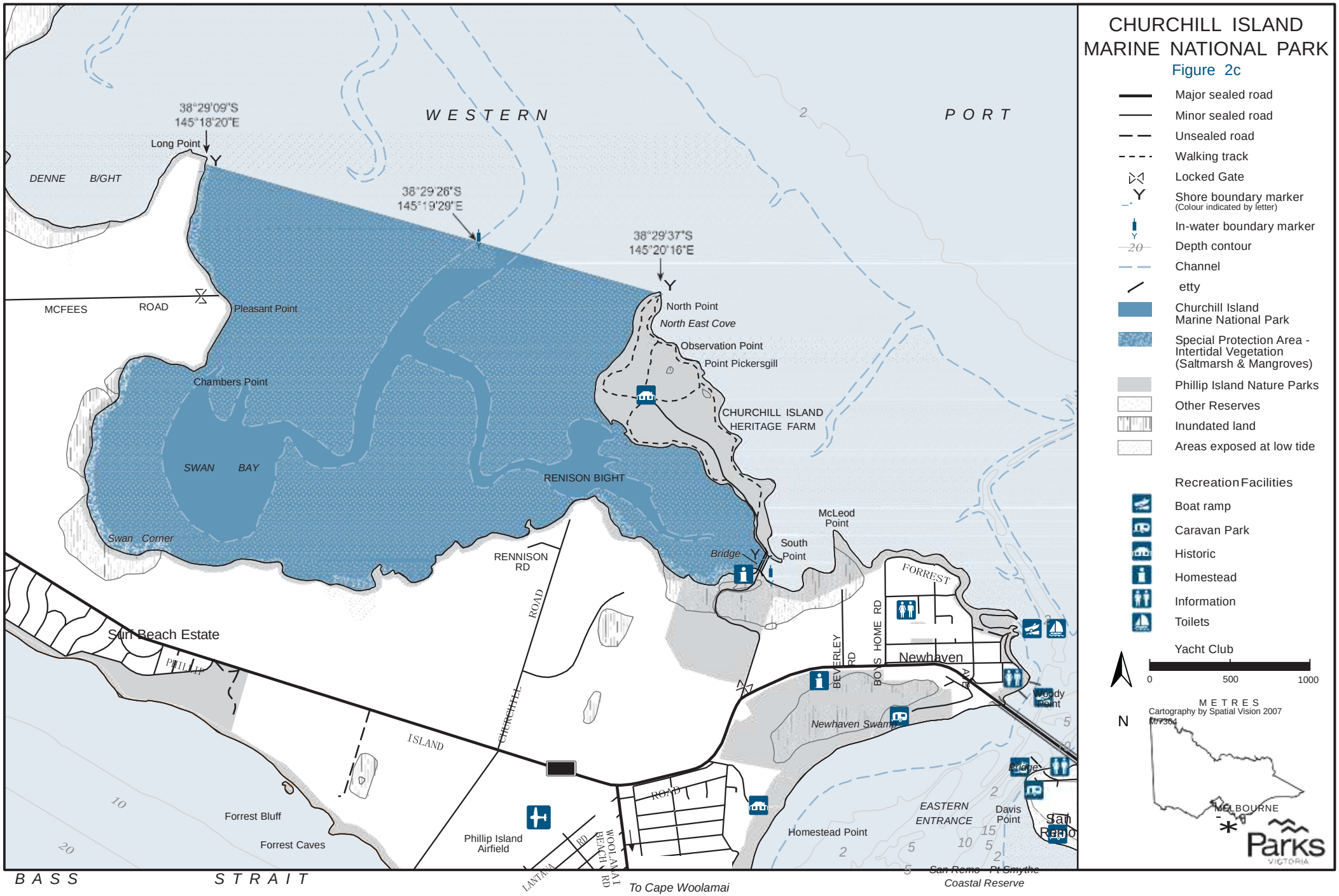
ORGANISATION/ INDIVIDUAL	SUBMISSION NUMBER
SUBMISSIONS FROM ORGANISATIONS	**10**
Bird Observers Club of Australia	11
Cannons Creek Residents Association & Coast Action Group Inc.	04
Confidential	09
Confidential	12
Department of Primary Industries - Fisheries Victoria	08
Department for Victorian Communities - Aboriginal Affairs Victoria	06
EPA Victoria	07
Mornington Peninsula Shire	10
Tourism Alliance Victoria	02
Western Port Bird Observers Club (Branch of the Bird Observers Club of Australia)	01
SUBMISSIONS FROM INDIVIDUALS	**2**
Hugh Kirkman	05
Anwyn Martin	03

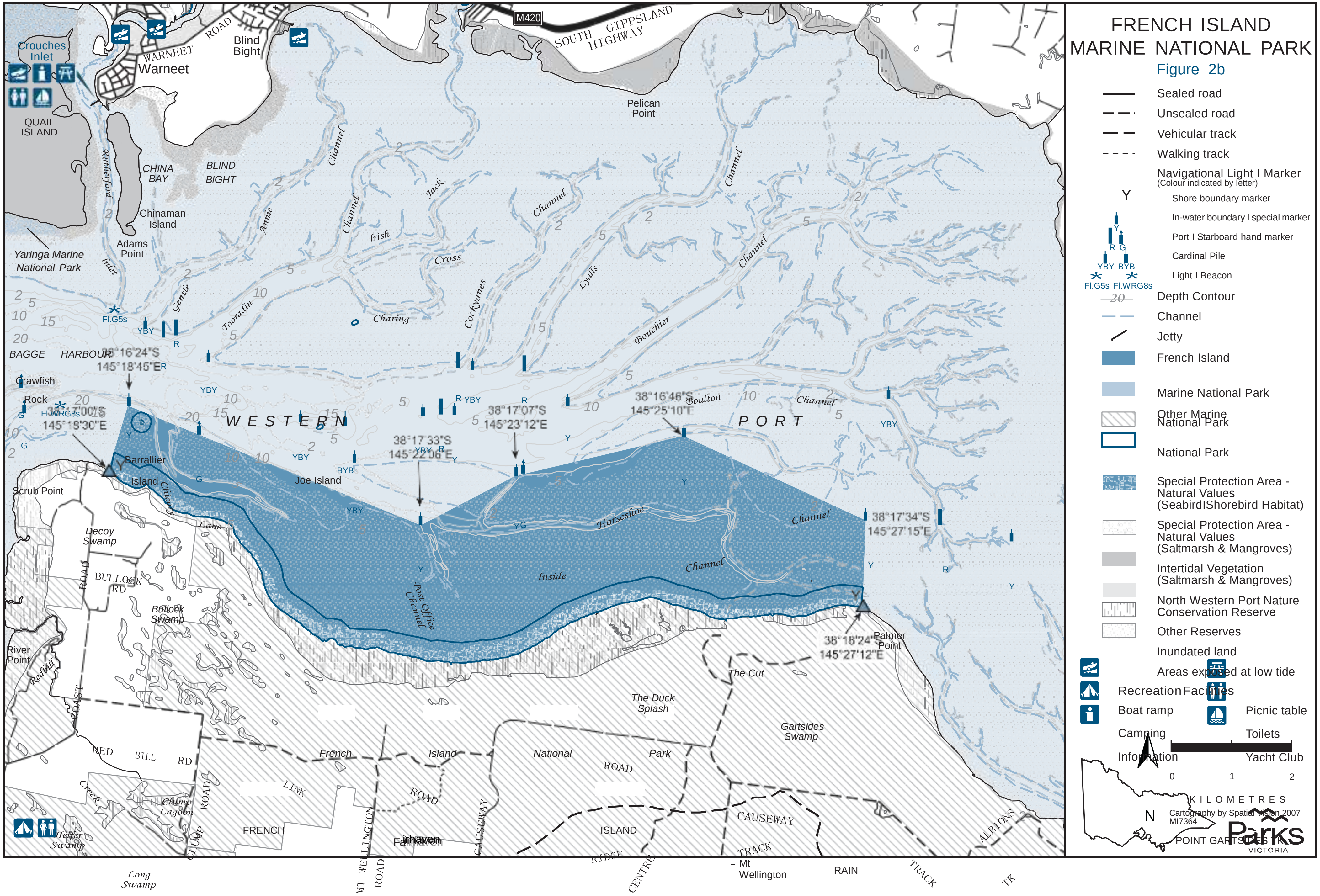
Figure 1

LOCATION

YARINGA MARINE NATIONAL PARK, FRENCH ISLAND MARINE NATIONAL PARK & CHURCHILL ISLAND MARINE NATIONAL PARK

Parks VICTORIA


CHURCHILL ISLAND
MARINE NATIONAL PARK
Figure 2c
WESTERN
PORT
38°29'09"S
145°18'20"E
Long Point
DENNE B/GHT
38°29'26"S
145°19'29"E
38°29'37"S
145°20'16"E
MCFEES ROAD
Pleasant Point
North Point
North East Cove
Observation Point
Point Pickersgill
Chambers Point
CHURCHILL ISLAND
HERITAGE FARM
SWAN BAY
RENISON BIGHT
Swan Corner
McLeod Point
South Point
Bridge
RENNISON RD
ROAD
Surf Beach Estate
PHILLIP
ISLAND
CHURCHILL
ROAD
FORREST
BOYS HOME RD
BEVERLEY RD
Newhaven
Woody Point
Newhaven Swamp
Forrest Bluff
Forrest Caves
Phillip Island Airfield
LANTANA RD
WOOLAMAI BEACH RD
Homestead Point
EASTERN ENTRANCE
Davis Point
San Remo
San Remo - Pt Smythe Coastal Reserve
BASS STRAIT
To Cape Woolamai
Major sealed road
Minor sealed road
Unsealed road
Walking track
Locked Gate
Shore boundary marker
(Colour indicated by letter)
In-water boundary marker
Depth contour
Channel
etty
Churchill Island Marine National Park
Special Protection Area - Intertidal Vegetation (Saltmarsh & Mangroves)
Phillip Island Nature Parks
Other Reserves
Inundated land
Areas exposed at low tide
Recreation Facilities
Boat ramp
Caravan Park
Historic
Homestead
Information
Toilets
Yacht Club
0
500
1000
METRES
Cartography by Spatial Vision 2007
07/7364
N
MELBOURNE
Parks VICTORIA


FRENCH ISLAND
MARINE NATIONAL PARK
Figure 2b
Sealed road
Unsealed road
Vehicular track
Walking track
Navigational Light I Marker (Colour indicated by letter)
Shore boundary marker
In-water boundary I special marker
Port I Starboard hand marker
Cardinal Pile
Light I Beacon
Depth Contour
Channel
Jetty
French Island
Marine National Park
Other Marine National Park
National Park
Special Protection Area - Natural Values (SeabirdIShorebird Habitat)
Special Protection Area - Natural Values (Saltmarsh & Mangroves)
Intertidal Vegetation (Saltmarsh & Mangroves)
North Western Port Nature Conservation Reserve
Other Reserves
Inundated land
Areas exposed at low tide
Recreation Facilities
Boat ramp
Picnic table
Camping
Toilets
Information
Yacht Club
0 1 2
KILOMETRES
Cartography by Spatial Vision 2007
MI7364
Parks VICTORIA
WESTERN PORT
Crouches Inlet
Warneet
Blind Bight
QUAIL ISLAND
CHINA BAY
BLIND BIGHT
Chinaman Island
Adams Point
Yaringa Marine National Park
Pelican Point
SOUTH GIPPSLAND HIGHWAY
M420
BAGGE HARBOUR
Crawfish Rock
Barrallier Island
Joe Island
Scrub Point
Decoy Swamp
Bullock Swamp
River Point
Palmer Point
The Cut
The Duck Splash
Gartsides Swamp
FRENCH ISLAND
38°16'24"S 145°18'45"E
38°17'00"S 145°18'30"E
38°17'33"S 145°22'06"E
38°17'07"S 145°23'12"E
38°16'46"S 145°25'10"E
38°17'34"S 145°27'15"E
38°18'24"S 145°27'12"E
Fl.G5s
Fl.WRG8s
Mt Wellington
POINT GARTSIDES TK

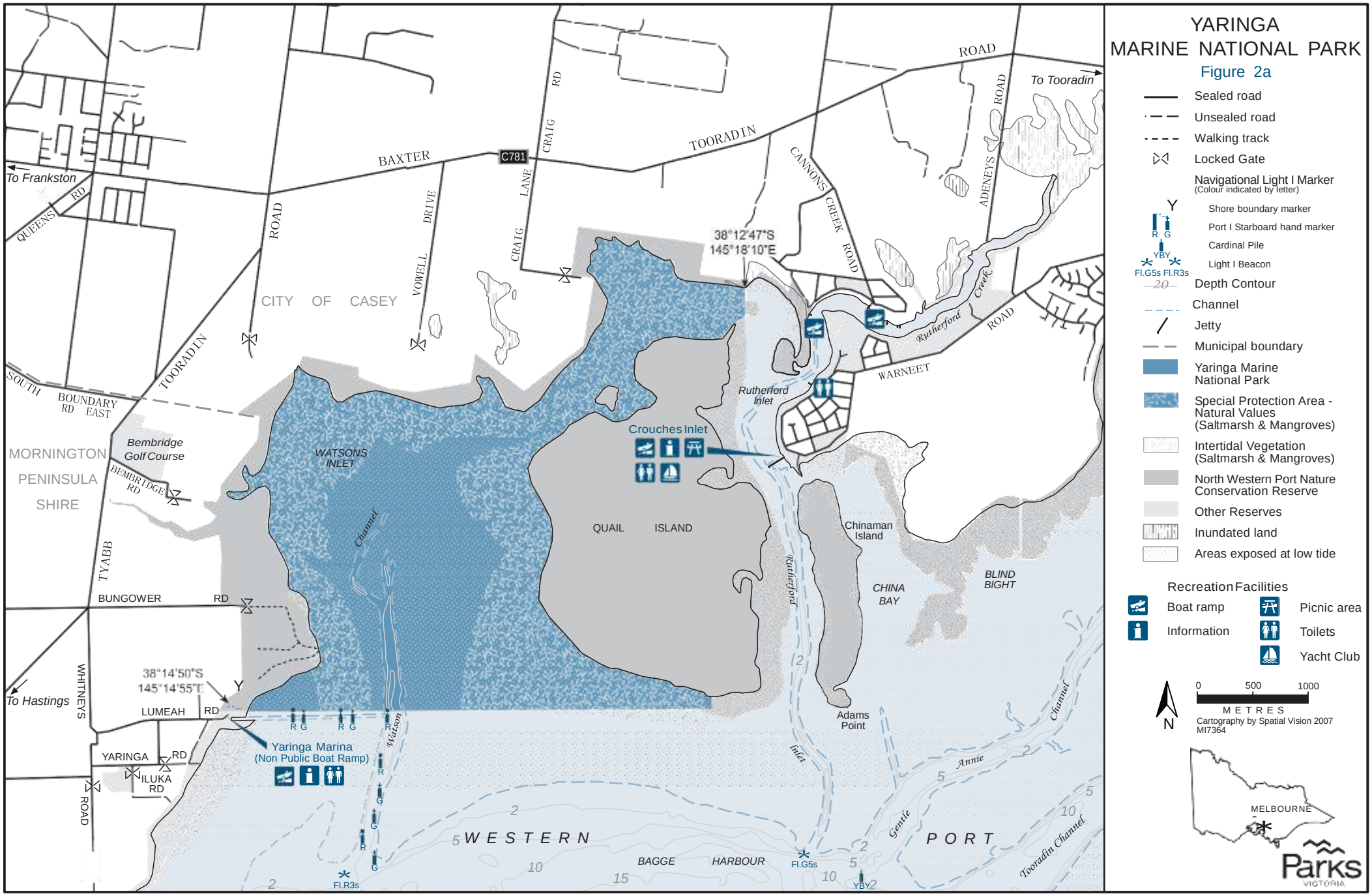
TRACK

MELBOURNE

*

BRELLA
SPUR TK

-


YARINGA
MARINE NATIONAL PARK
Figure 2a
Sealed road
Unsealed road
Walking track
Locked Gate
Navigational Light I Marker
(Colour indicated by letter)
Shore boundary marker
Port I Starboard hand marker
Cardinal Pile
Light I Beacon
Depth Contour
Channel
Jetty
Municipal boundary
Yaringa Marine National Park
Special Protection Area - Natural Values (Saltmarsh & Mangroves)
Intertidal Vegetation (Saltmarsh & Mangroves)
North Western Port Nature Conservation Reserve
Other Reserves
Inundated land
Areas exposed at low tide
Recreation Facilities
Boat ramp
Information
Picnic area
Toilets
Yacht Club
0 500 1000
METRES
N
Cartography by Spatial Vision 2007
MI7364
MELBOURNE
Parks VICTORIA
To Frankston
To Tooradin
To Hastings
BAXTER
TOORADIN
ROAD
C781
CRAIG RD
CRAIG LANE
VOWELL DRIVE
CANNONS CREEK ROAD
ADENEYS ROAD
QUEENS RD
CITY OF CASEY
SOUTH BOUNDARY RD EAST
MORNINGTON PENINSULA SHIRE
Bembridge Golf Course
BEMBRIDGE RD
TYABB
BUNGOWER RD
WHITNEYS ROAD
LUMEAH RD
YARINGA RD
ILUKA RD
38°14'50"S
145°14'55"E
38°12'47"S
145°18'10"E
Yaringa Marina
(Non Public Boat Ramp)
WATSONS INLET
Channel
Watson inlet
Crouches Inlet
QUAIL ISLAND
Rutherford Inlet
Rutherford Creek
WARNEET
Chinaman Island
CHINA BAY
BLIND BIGHT
Adams Point
Annie Channel
Gentle Channel
Tooradin Channel
WESTERN PORT
BAGGE HARBOUR
Fl.R3s
Fl.G5s
Fl.G5s Fl.R3s
YBY
2
5
10
15
20